

# The History of the Factory and changes in where we work



By Charles Paidock IMAW, AFL-CIO  
College of Complexes

NFFE

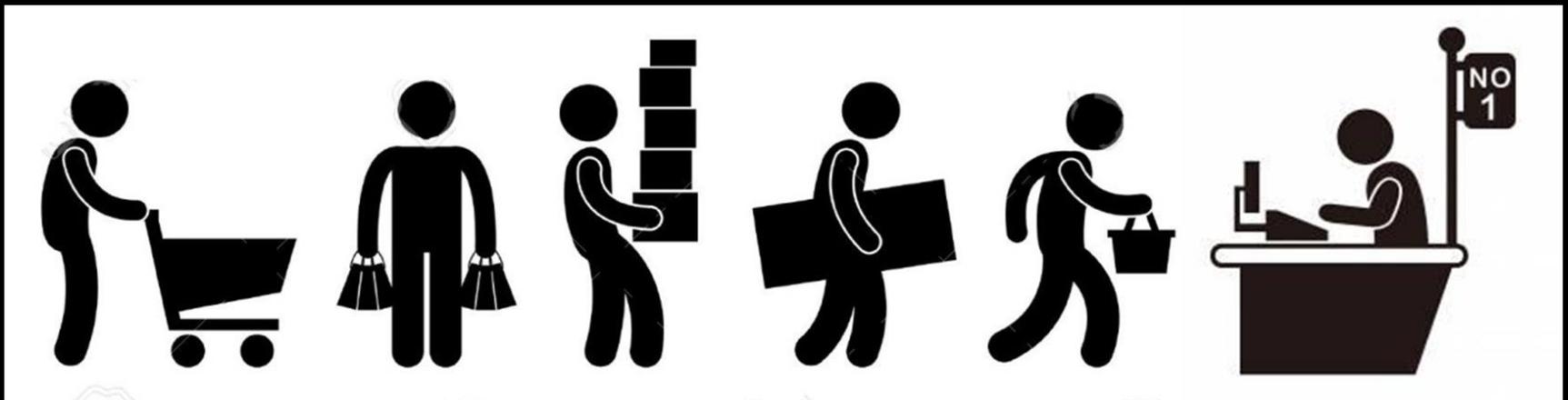
National Federation of Federal Employees

Local 739 Chicago, IL



We Work for America, Everyday

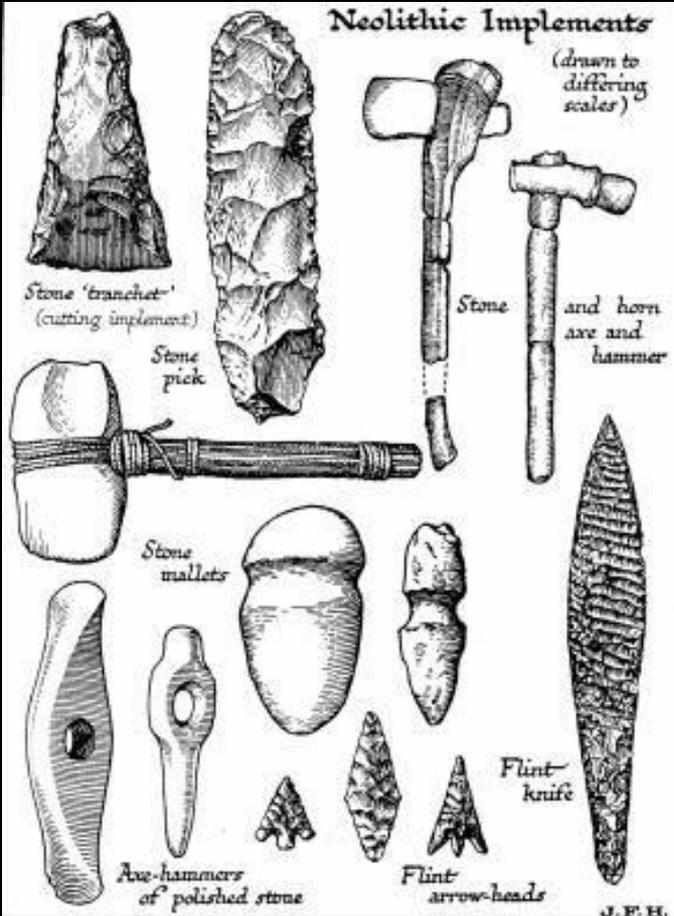
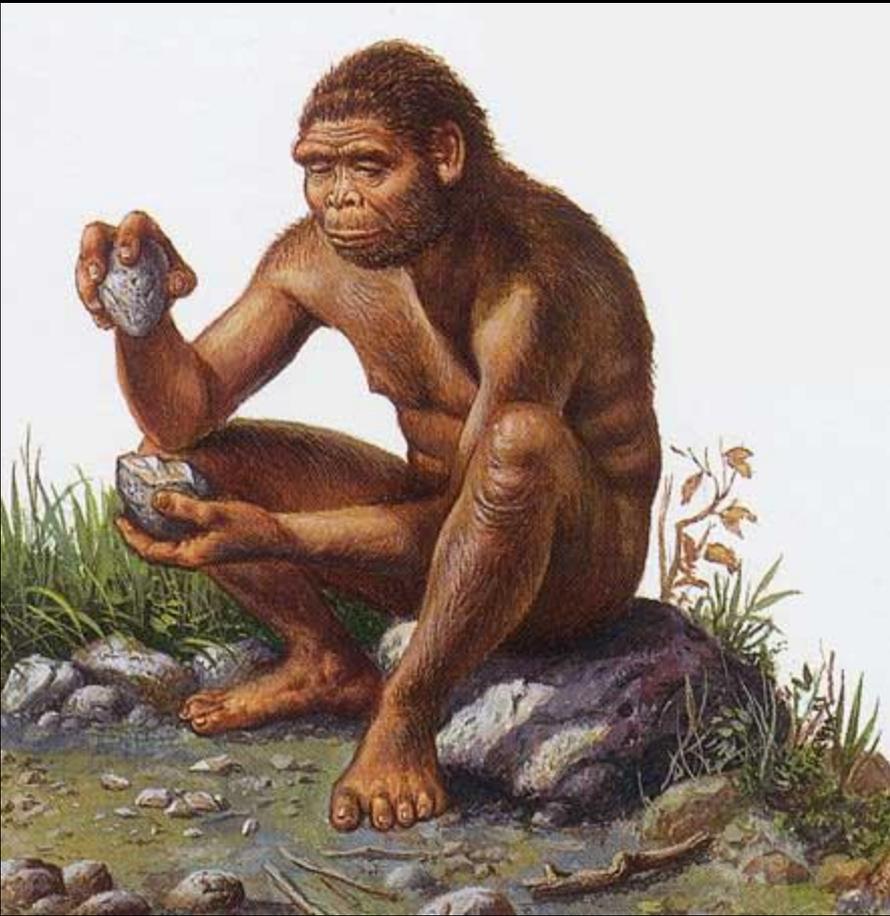
# The story of how we came to live in a factory made world



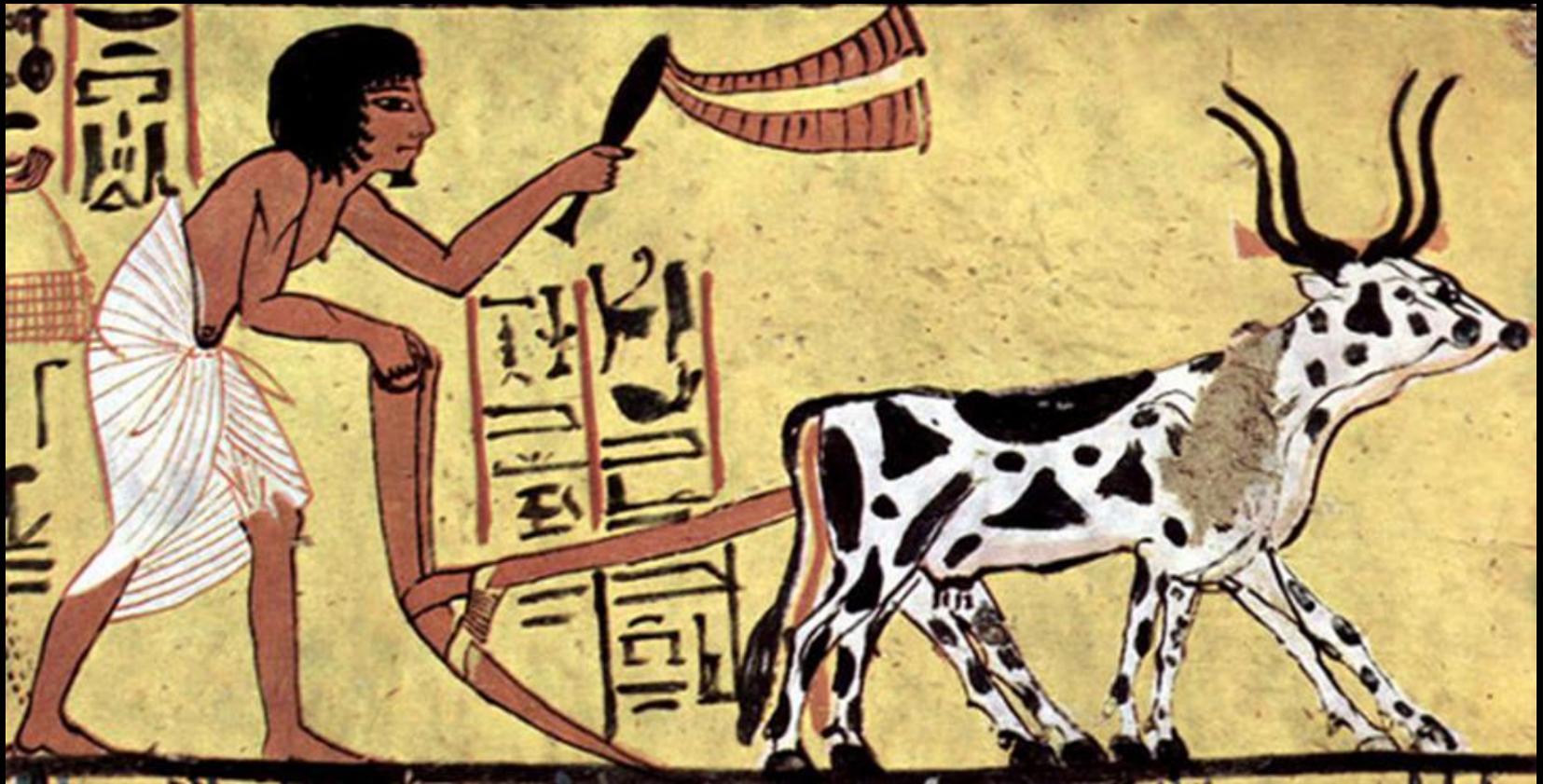
I am able to speak to you tonight using an affordable device made in a factory through an assembly-line process



# Flint Tools – a neolithic revolution took place with the making of useful things by homo habilis



Farming predominant occupation  
making things to eat



With surplus production,  
specialty skills emerge





# Guilds

Craft guilds were occupational associations of masons, blacksmiths, bakers, butchers and so on.

shared occupations in small shops using hand tools

Time to make one pair of shoes went from 18 hours to 20 minutes

# Cottage Industry Domestic System



# Incipient Capitalism acceleration

wool industry, increased trade, supply of thread 6 to 1





Between the 1760s and 1850, the nature of work transitioned from a craft production model to a factory-centric model.

Textile factories organized workers' lives much differently than did craft production.

Handloom weavers worked at their own pace, with their own tools, within their own cottages. Factories set hours of work and the machinery within them shaped the pace of work.

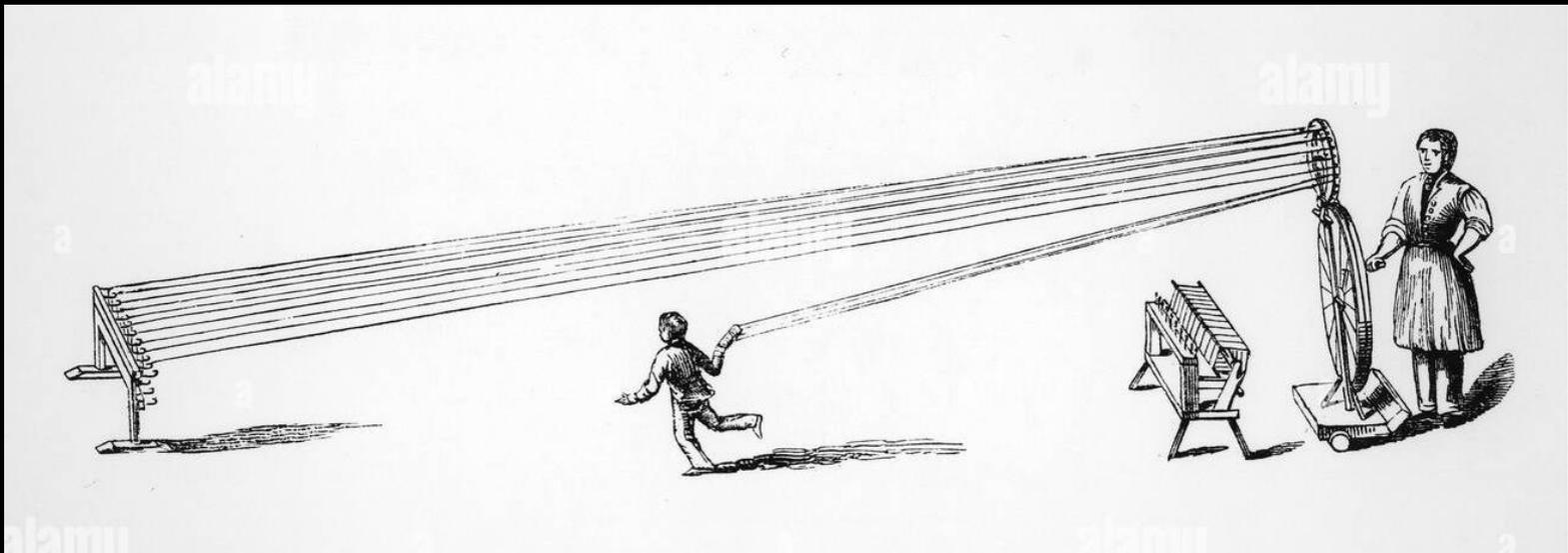
Factories brought workers together within one building to work on machinery that they did not own.

They also increased the division of labor, narrowing the number and scope of tasks.



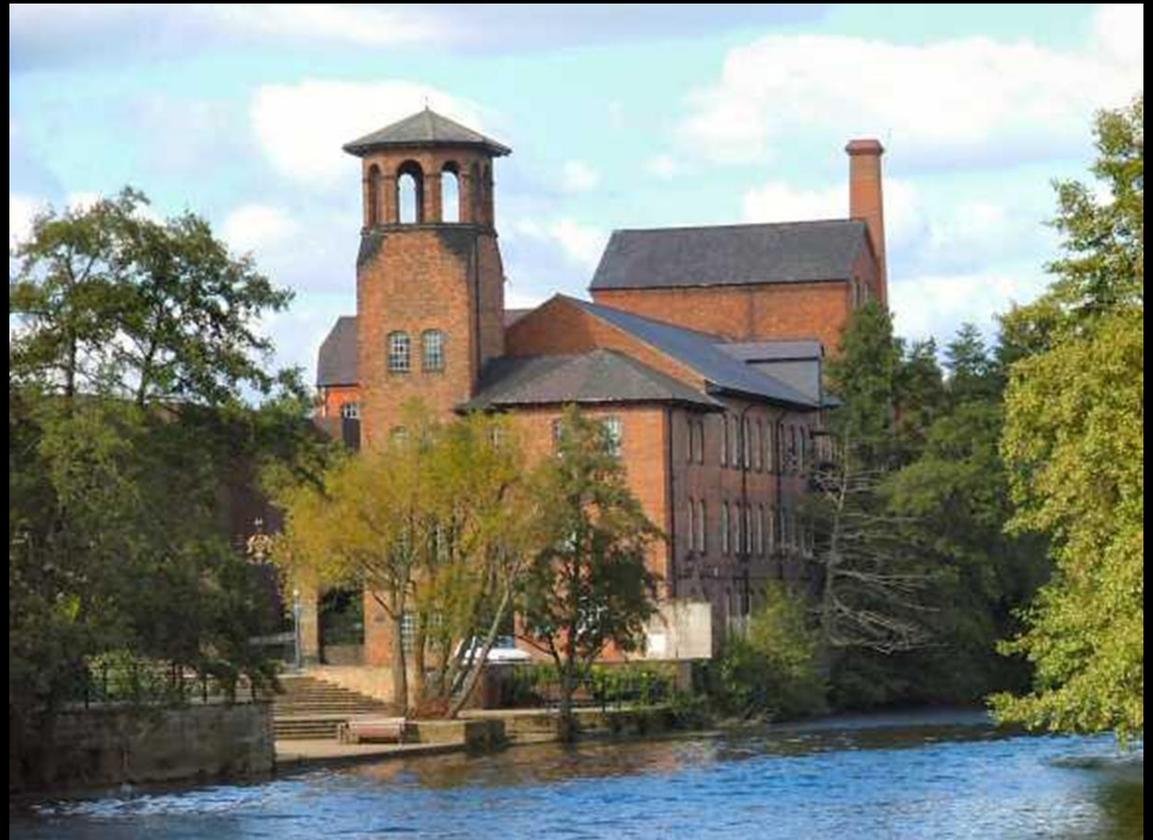
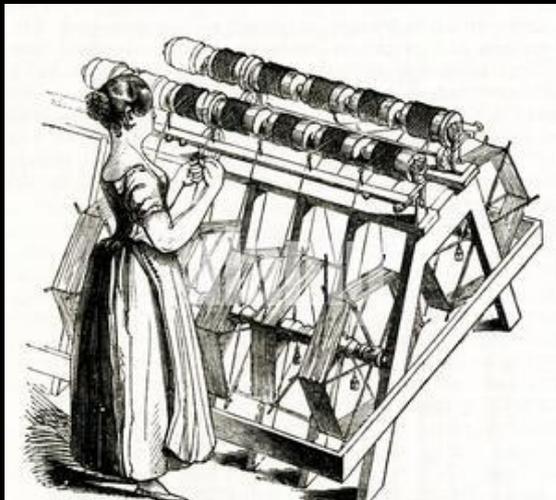
The factory system was a new way of organizing labor made necessary by the development of machines, which were too large to house in a worker's cottage and much too expensive to be owned by the worker.

One of the earliest factories was John Lombe's water-powered silk mill at Derby, operational by 1721.





John Lombe, disguised as a poor out of work young man, secretly made drawings of the machinery in the Italian silk mills. He returned to England and it is said that the angry Italians sent over an agent to make him pay for his theft of their technology.



Mechanics of rotary motion



# Grist Mill

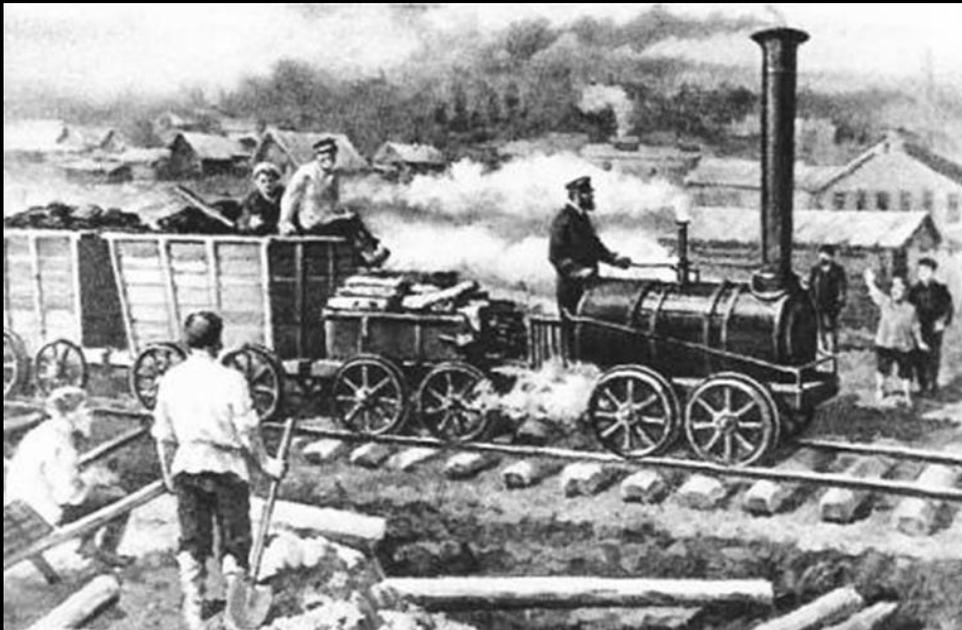
which ground corn into meal  
or wheat into flour





**Richard Arkwright is the person credited with inventing the prototype of the modern factory, which used water power in 1769.**

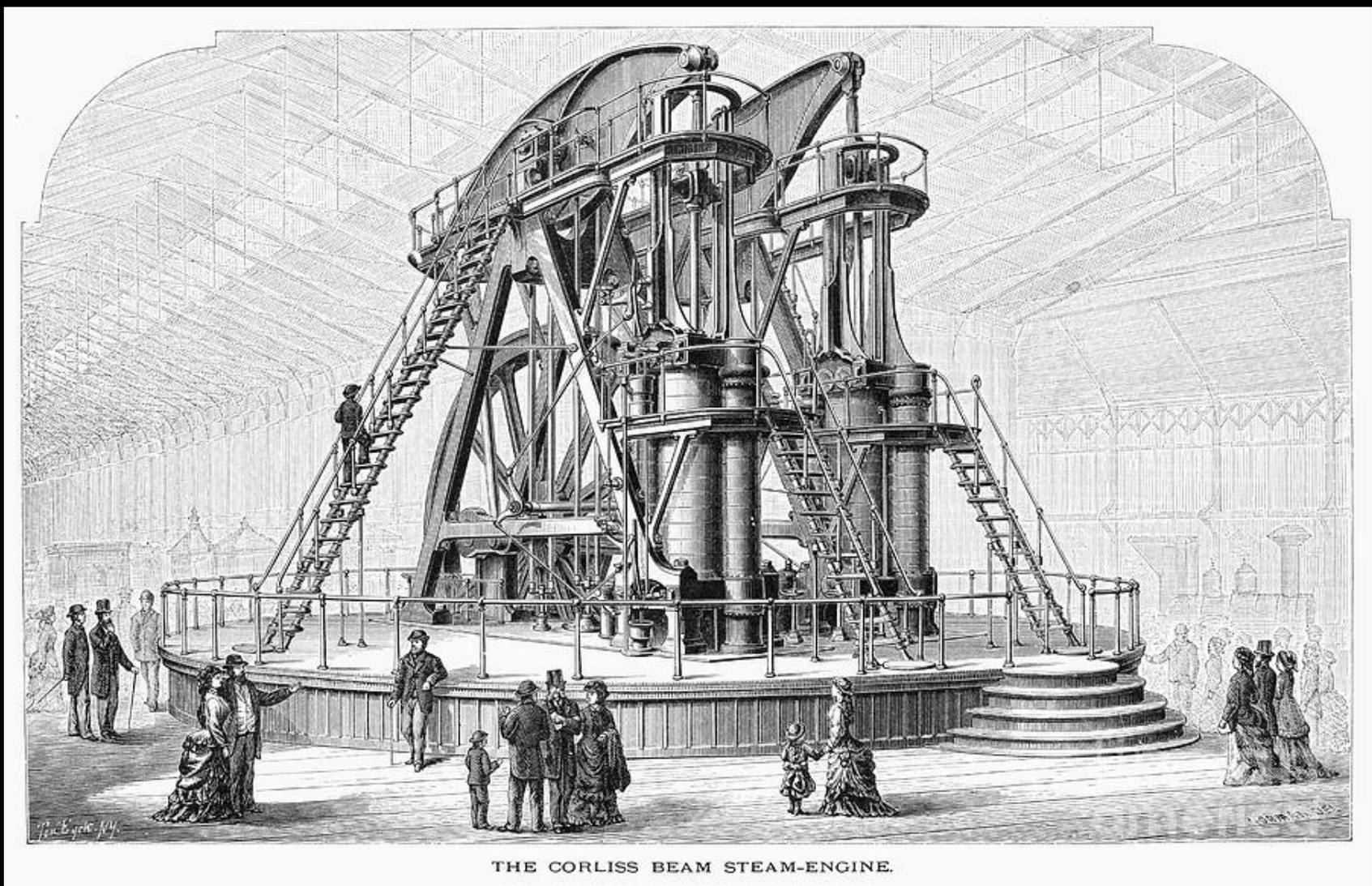




Changing water into steam  
1781

Thomas Newcomen  
James Watt

Coal mining stimulated  
development of the steam  
engine, which then powered  
the industrial revolution.



THE CORLISS BEAM STEAM-ENGINE.

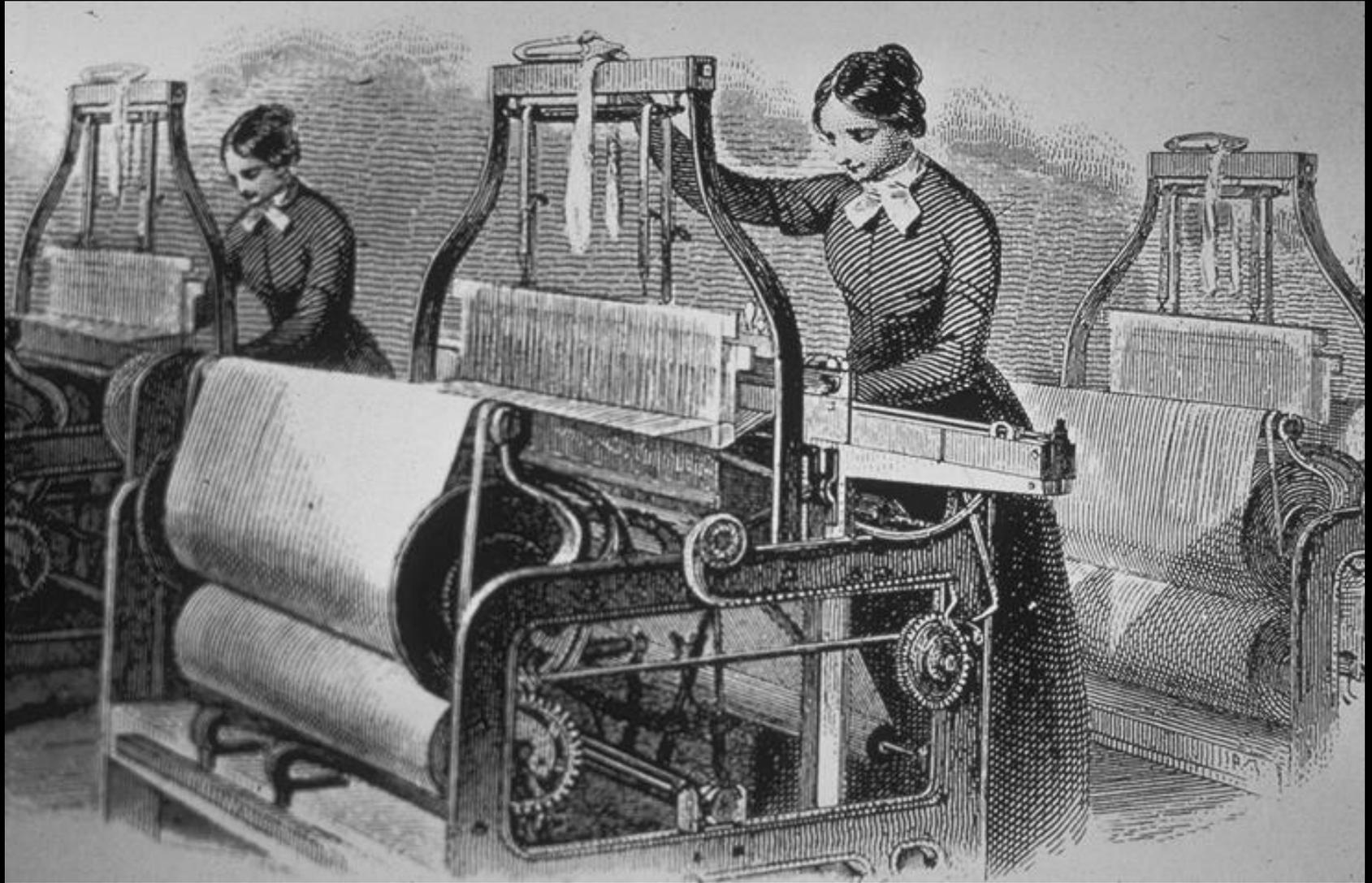
Machines increased production 96X, later 3,000X more



# The spinning jenny

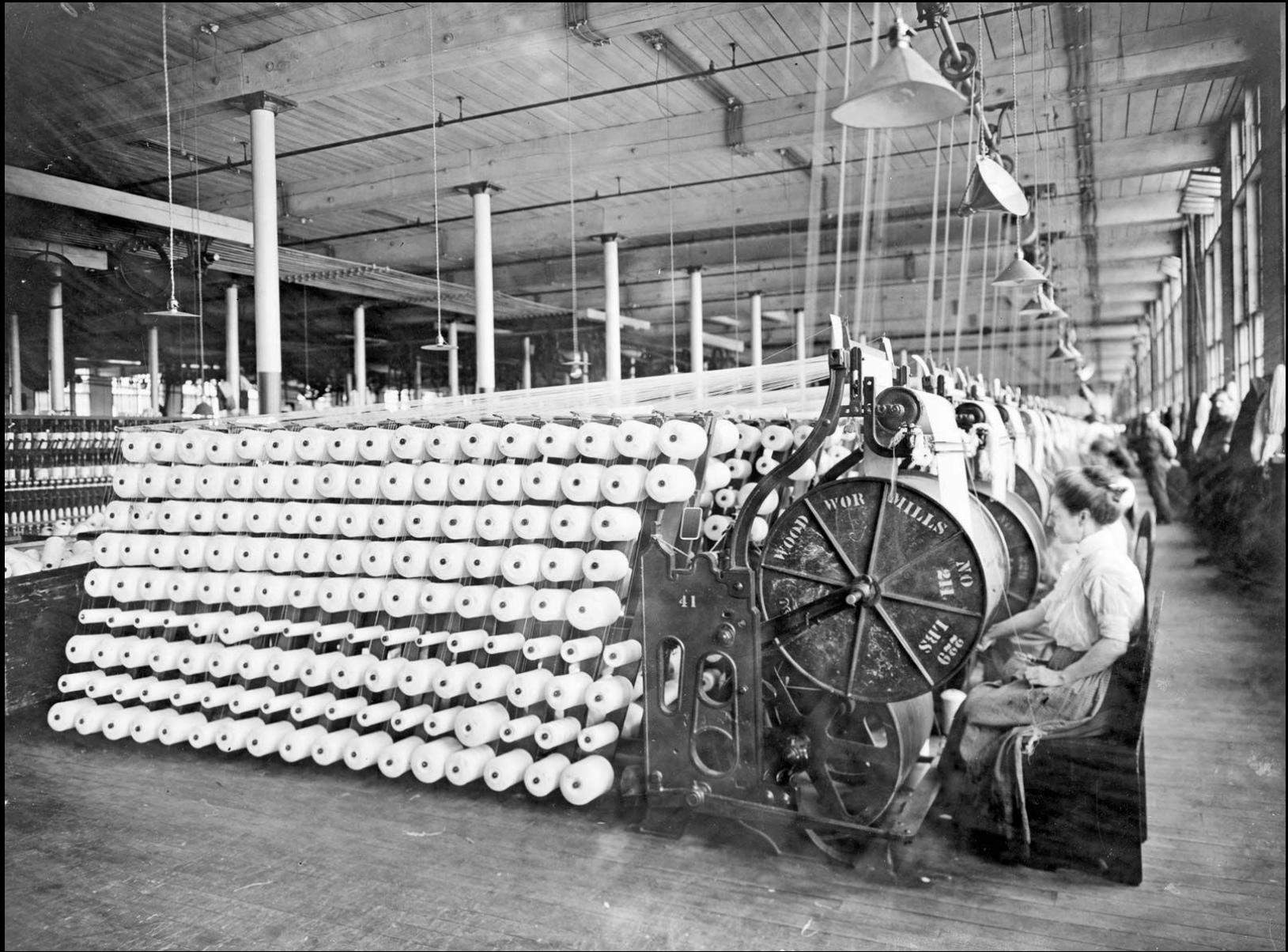


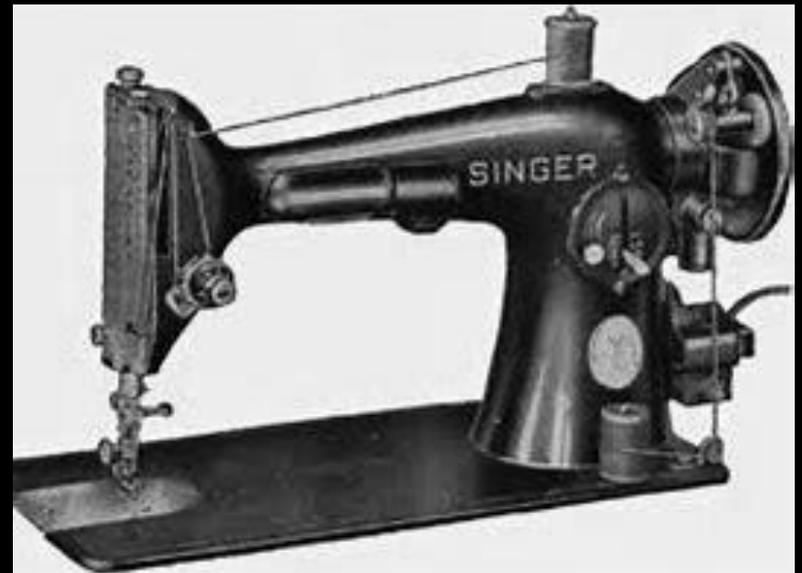
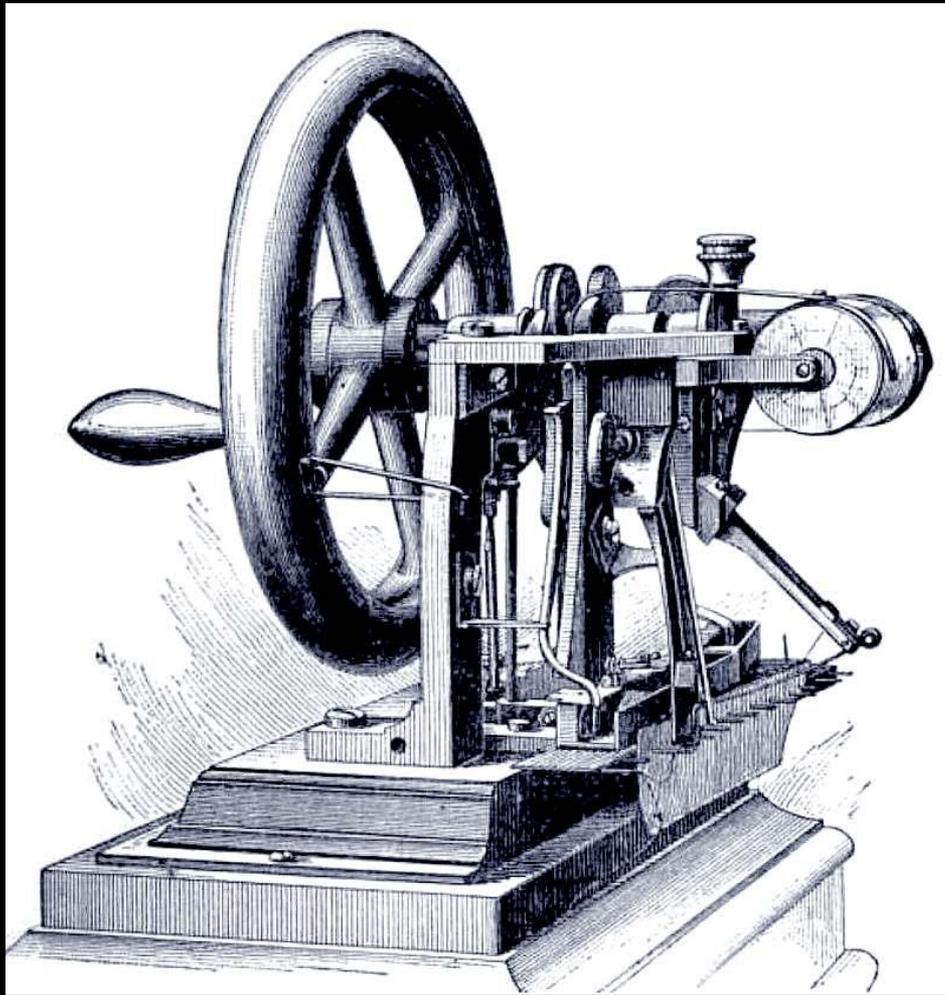
# The power loom



Flying Shuttle - horizontal threads, called the weft, through alternate vertical threads called the warp









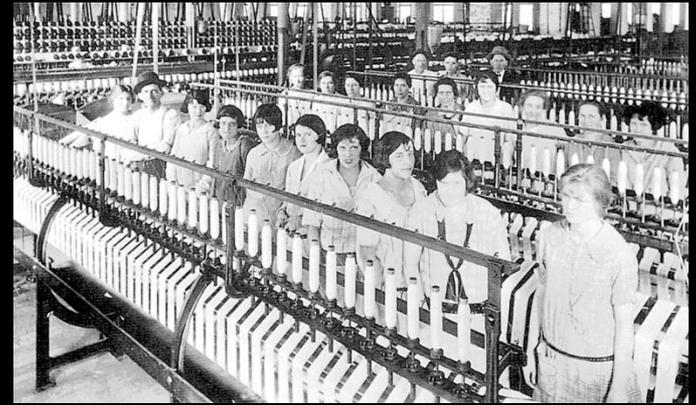


## 1792 Beginning of Organized Labor Movement in US

Federal Society of Journeymen Cordwainers (shoe makers) in Philadelphia – 1st local union in the US organized to conduct collective bargaining.

1824 The First Factory Strike in America in Pawtucket and across the region  
102 young women started the strike – then called a turnout they visited successively the houses of the manufacturers, shouting, exclaiming and using every imaginable term of abuse and insult.





# 75 Young Women

From 15 to 35 Years of Age,

WANTED TO WORK IN THE

## COTTON MILLS!

IN LOWELL AND CHICOPEE, MASS.

I am authorized by the Agents of said Mills to make the following proposition to persons suitable for their work, viz.—They will be paid \$1.00 per week, and board, for the first month. It is presumed they will then be able to go to work at job prices. They will be considered as engaged for one year, cases of sickness excepted. I will pay the expenses of those who have not the means to pay for themselves, and the girls will pay it to the Company by their first labor. All that remain in the employ of the Company eighteen months will have the amount of their expenses to the Mills refunded to them. They will be properly cared for in sickness. It is hoped that some will go except those whose circumstances will admit of their staying at least one year. None but active and healthy girls will be engaged for this work, as it would not be profitable for either the Mills or the Company.

I shall be at the Howard Hotel, Burlington, on Monday, July 25th; at Farnham's, St. Albans, Tuesday forenoon, 26th, at Keyse's, Swanton, in the afternoon; at the Massachusetts' House, Rouses Point, on Wednesday, the 27th, to engage girls,—such as would like a place in the Mills would do well to improve the present opportunity, as new hands will not be wanted late in the season. I shall start with my Company, for the Mills, on Friday morning, the 29th inst., from Rouses Point, at 6 o'clock. Such as do not have an opportunity to see me at the above places, can take the cars and go with me the same as though I had engaged them.

I will be responsible for the safety of all baggage that is marked in care of I. M. BOYNTON, and delivered to my charge.

**I. M. BOYNTON,**

Agent for Procuring Help for the Mills.



THE ARE NOW  
BUILD  
A UNION  
CLOTHING W  
FALL

CLOTHING WORKERS  
Your Place is

UNIC  
CONDITIO  
MEAN

IS A UNION OF  
and for  
THE WORKERS

OUR EMPLOYERS  
ARE POWERFUL  
*Because they are organized*  
we shall be  
MORE POWERFUL  
when we get on the Job

Can't Get  
CONDITIONS  
unless You  
HT FOR THEM

UNION  
ABBING  
MILIES

OUR EMPLOYERS  
HAVE WEALTH  
WE HAVE THE POWER  
of PRODUCTION

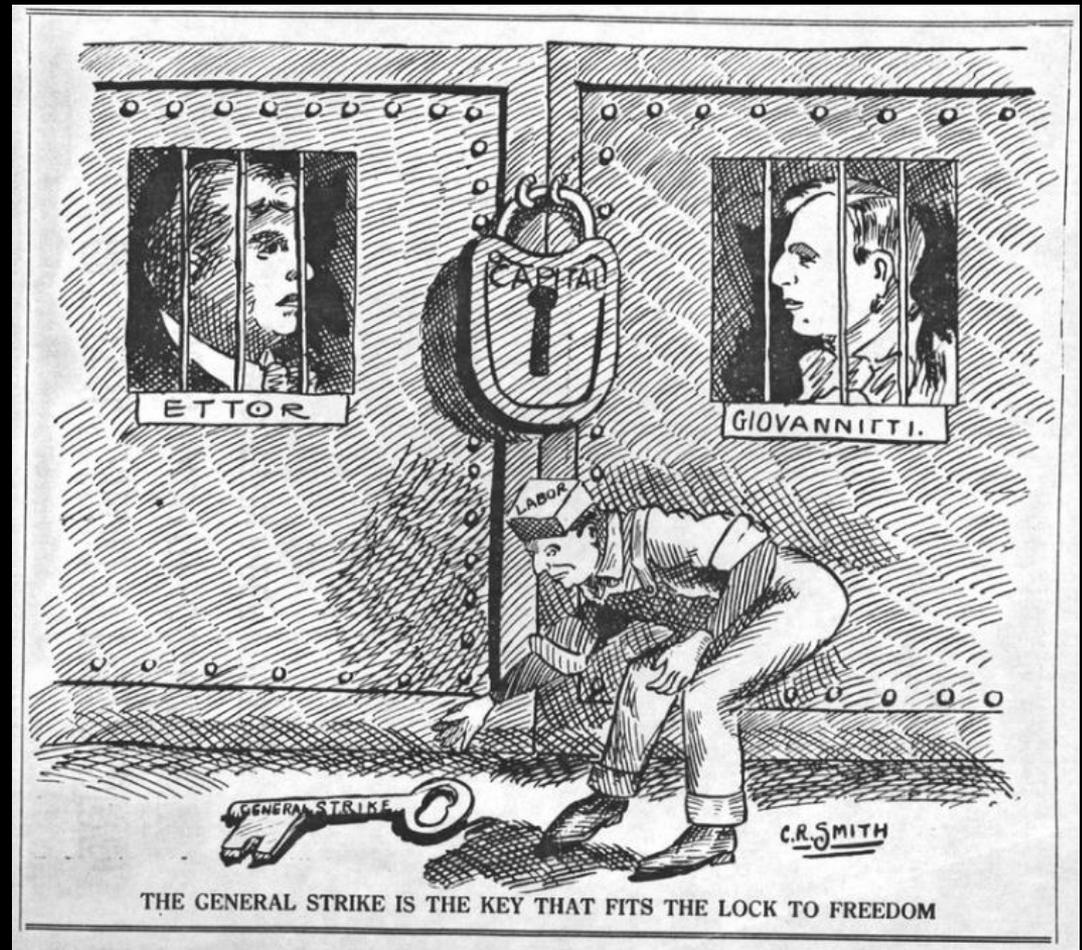
we shall  
FIGHT  
until  
WE WIN

NOV  
RIGHT  
DETERM  
FOR THEM

is the  
Low  
Bad Treatments



Two strike leaders were put on trial and kept in steel cages in the courtroom





The early textile factories employed many children. In England in 1788, two-thirds of the workers in water-powered cotton mills were children.

“parish apprentices”

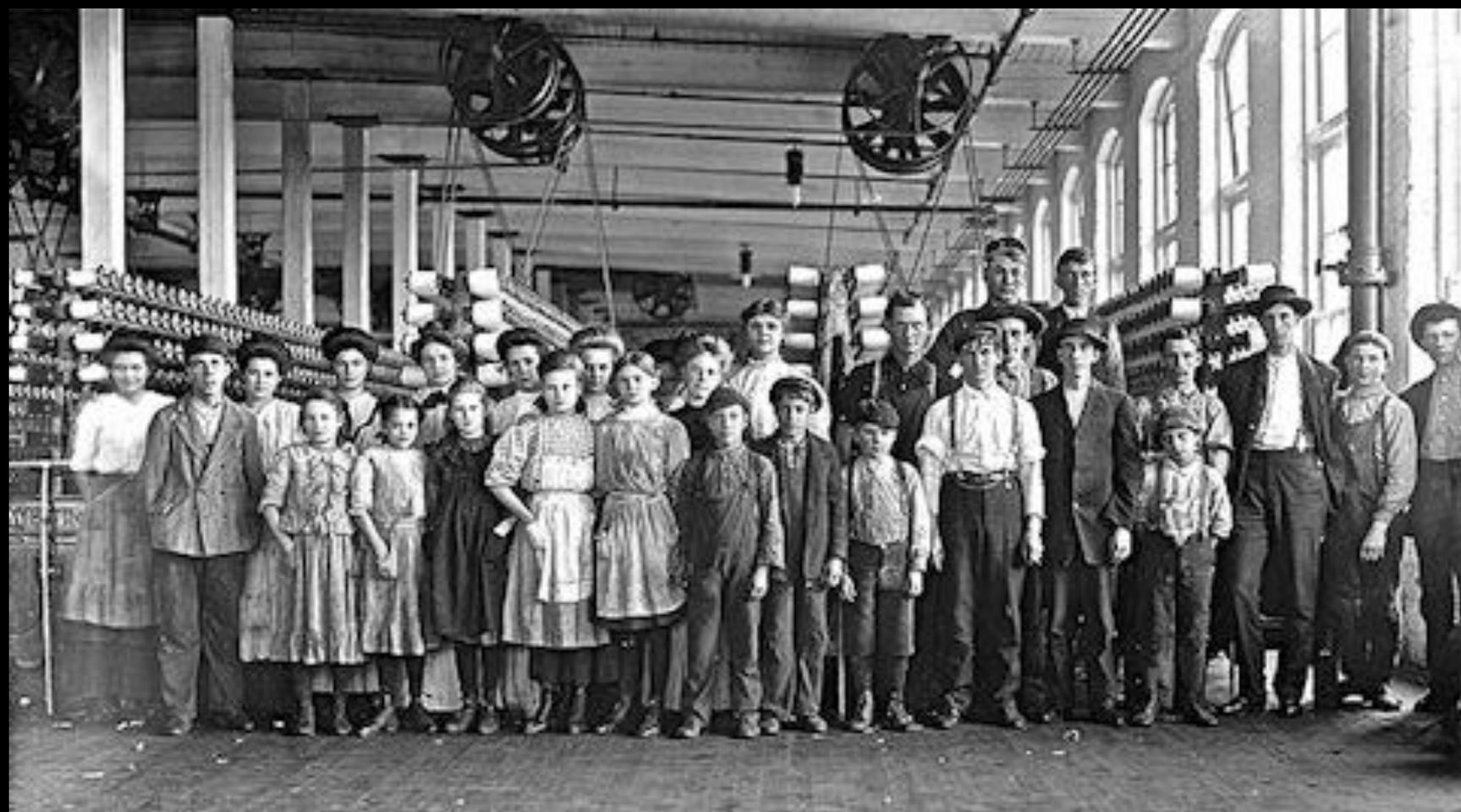


Fines were imposed and recorded in a “stopages leger” and paid for with free overtime or a longer apprenticeship



# Shortage of Money, Script quarterly paydays



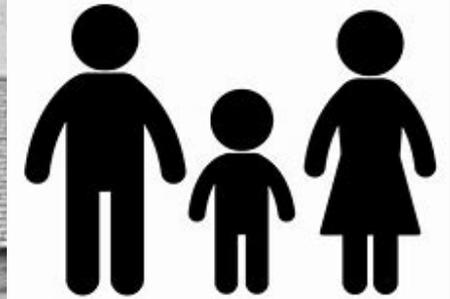


# Factories Need a Ready Supply of Labor





Move to living in an industrial community



Farm  
vs.  
Factory





The factory system was partly responsible for the rise of urban living, as large numbers of workers migrated into the towns in search of employment in the factories.

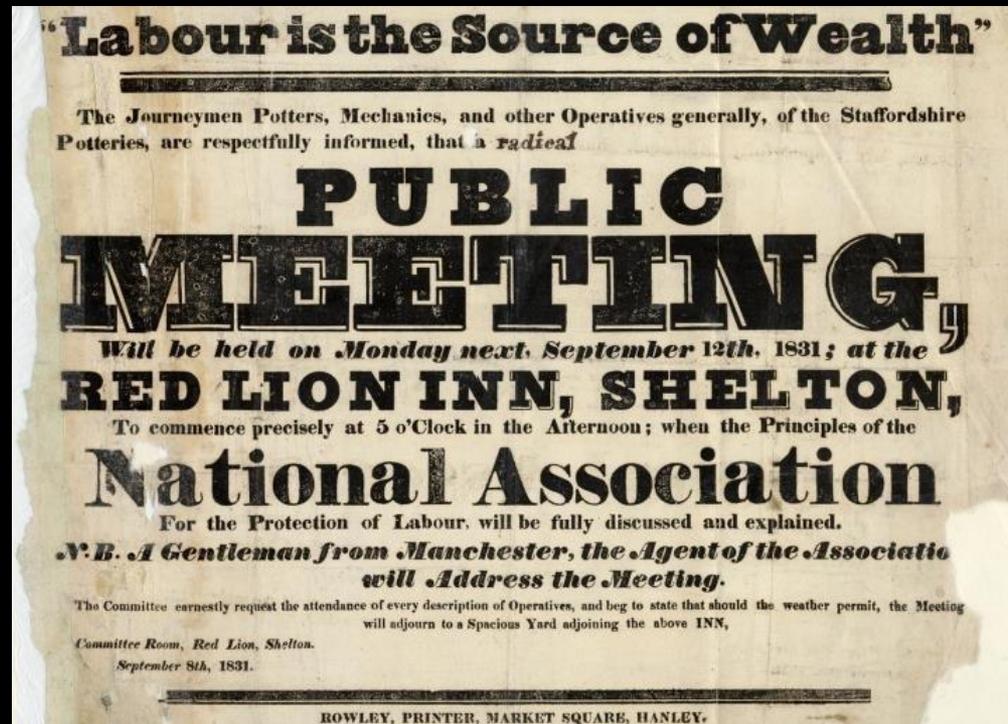
Until the late 19th century, it was common to work at least 12 hours a day, six days a week in most factories.



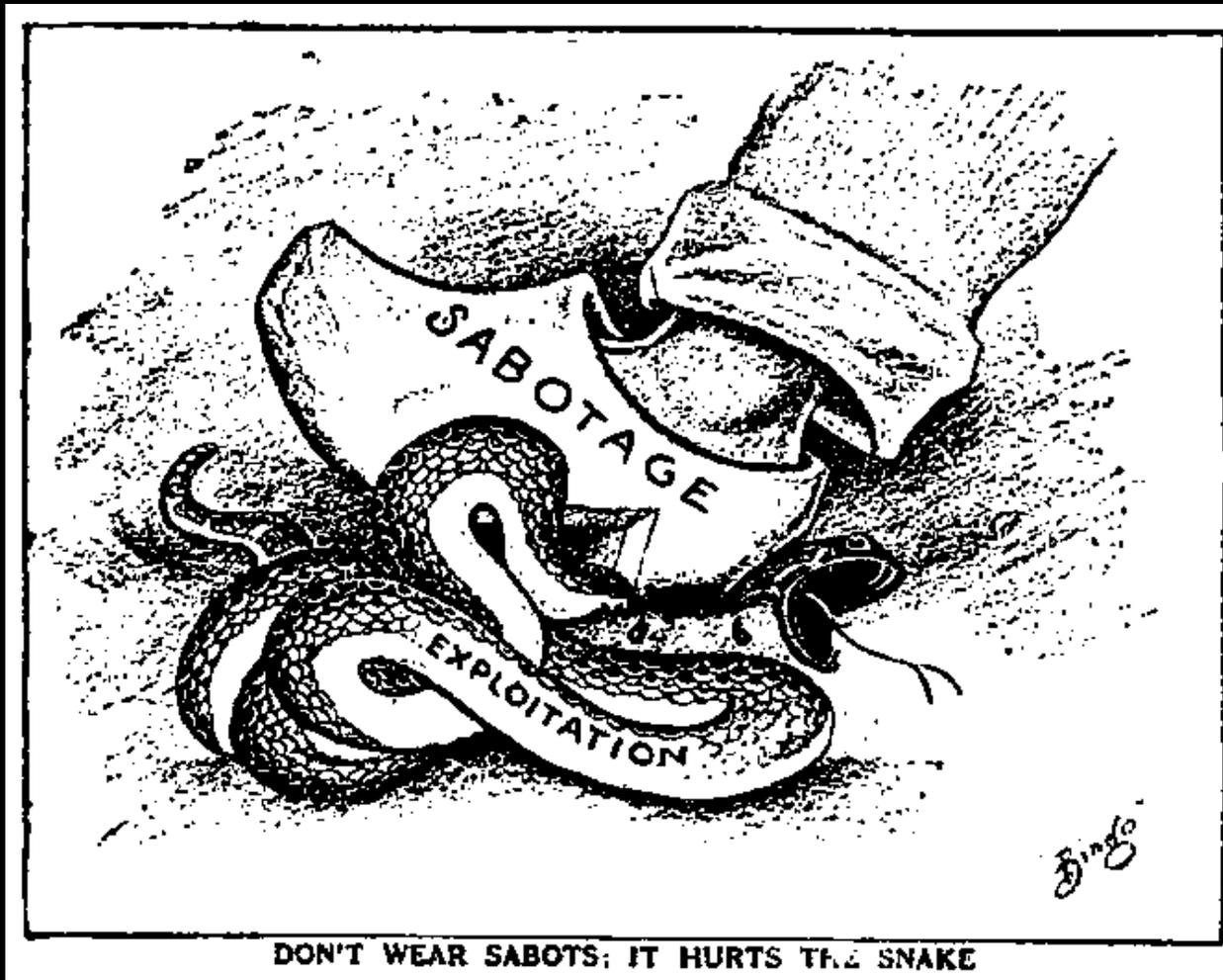


SHURRY

John Doherty was an Irish trade unionist, radical and factory reformer, formed the Society for Promoting National Regeneration



“The solution of Westminster to ending poverty is to make the hungry hungrier”



Be careful not to step on the snake of exploitation

## Combination Act 1799

Under this law any combination of two or more workmen, to lower or raise wages, or to increase or diminish the number of hours of work, or quantity of work to be done, was punishable

The legislation drove labor organizations underground, e.g., Luddites

Friedrich Engels



**The condition of the Working-Class in England in 1844**

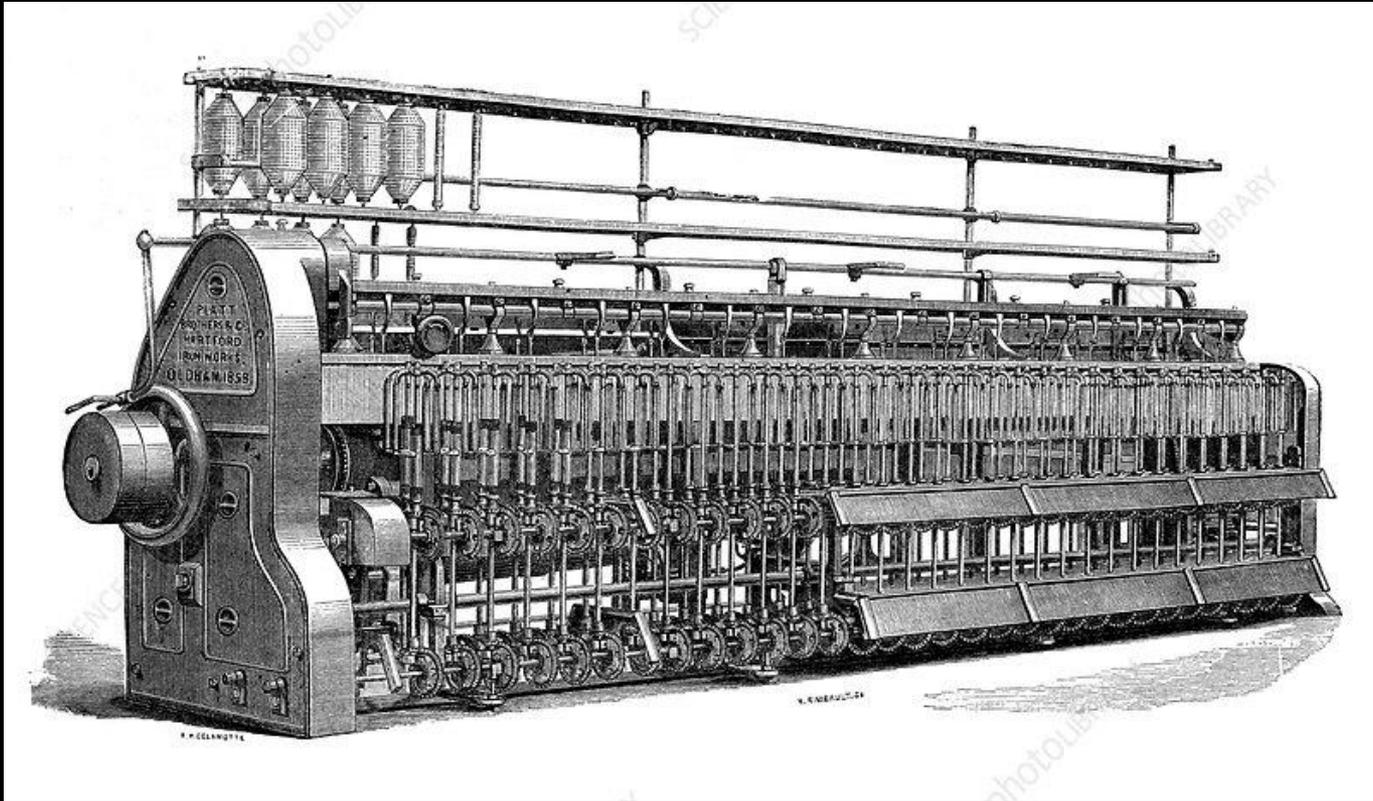
One of the best known accounts of factory worker's tragic living conditions during the Industrial Revolution is Friedrich Engels' *The Condition of the Working Class in England* in 1844.

“the introduction of machinery has created a compact group with its own way of life and thought and its own outlook on society”



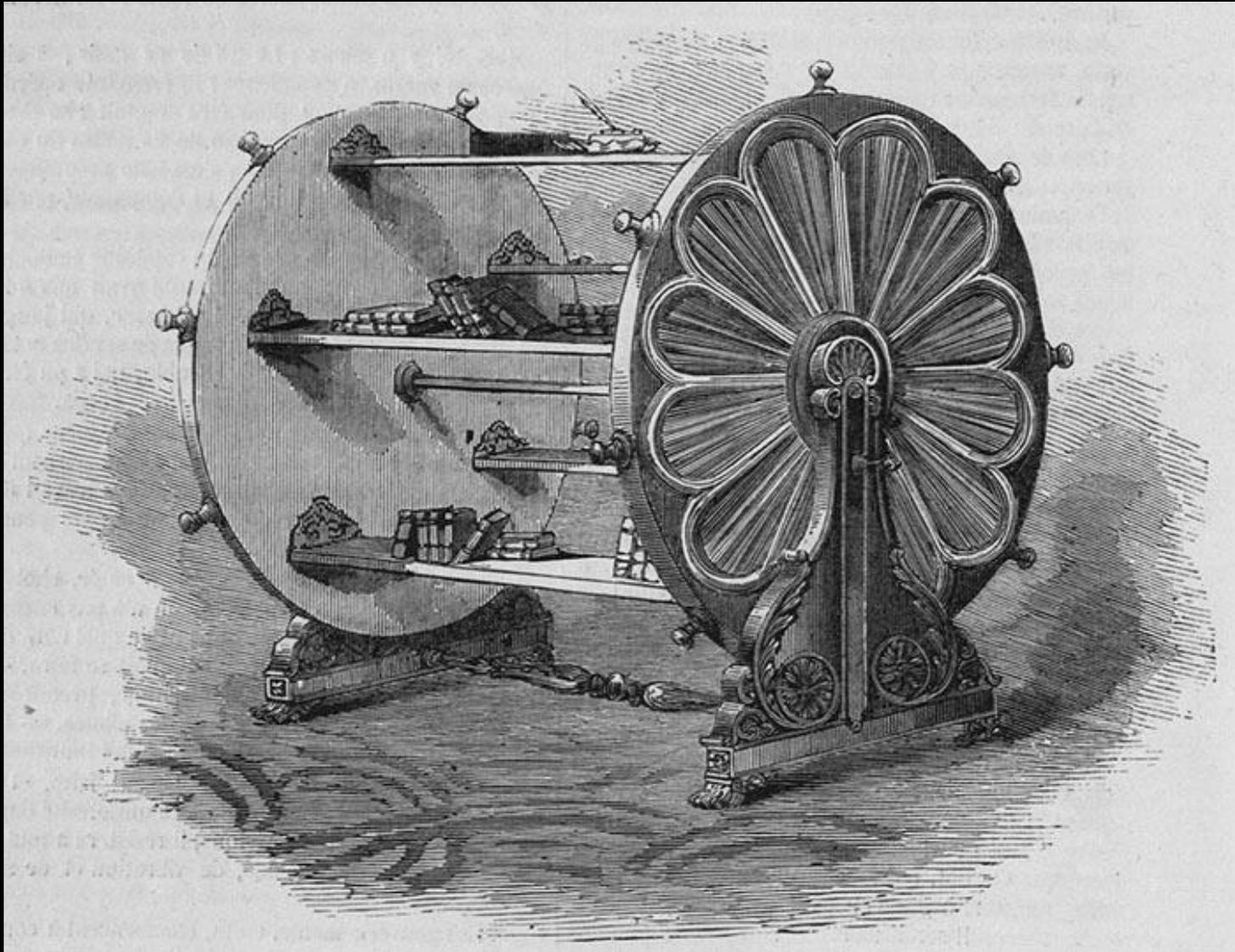
British workers' movement helped end slavery in America  
trade unions declared that "the cause of labour and liberty is  
one all over the world," and opposed the diplomatic  
recognition of any government "founded on human slavery"

Manchester's explosive economic growth was driven by unfettered capitalist exploitation. It became the world's first major industrial city and was dubbed "The workshop of the world" and "Cottonopolis."

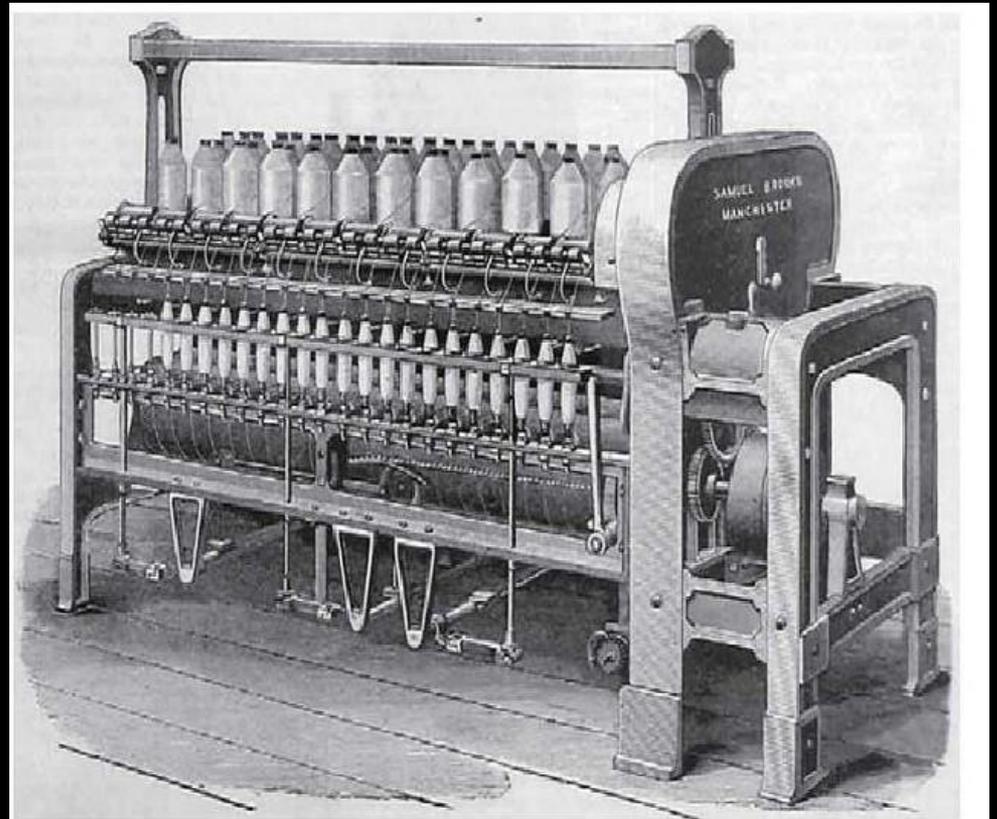


By 1860, there were 2,650 cotton mills employing 440,000 workers in the region.

The concept of rotary motion is central to the operation of any factory



The revolution was a result of scientific, technological advancement, and not the expansion of capitalist economics: labor creates all wealth



THE MAN IN THE WHITE SUIT  
a 1951 British satirical science  
fiction comedy film

A young inventor threatens  
the textile industry world  
when he creates an incredibly  
strong fibre which repels dirt  
and never wears out.

Both trade unions and the  
wealthy mill owners attempt  
to suppress his invention



Since 1790 there have been as many  
as 47 economic Depressions /  
Recessions in the United States

1807 – 1814

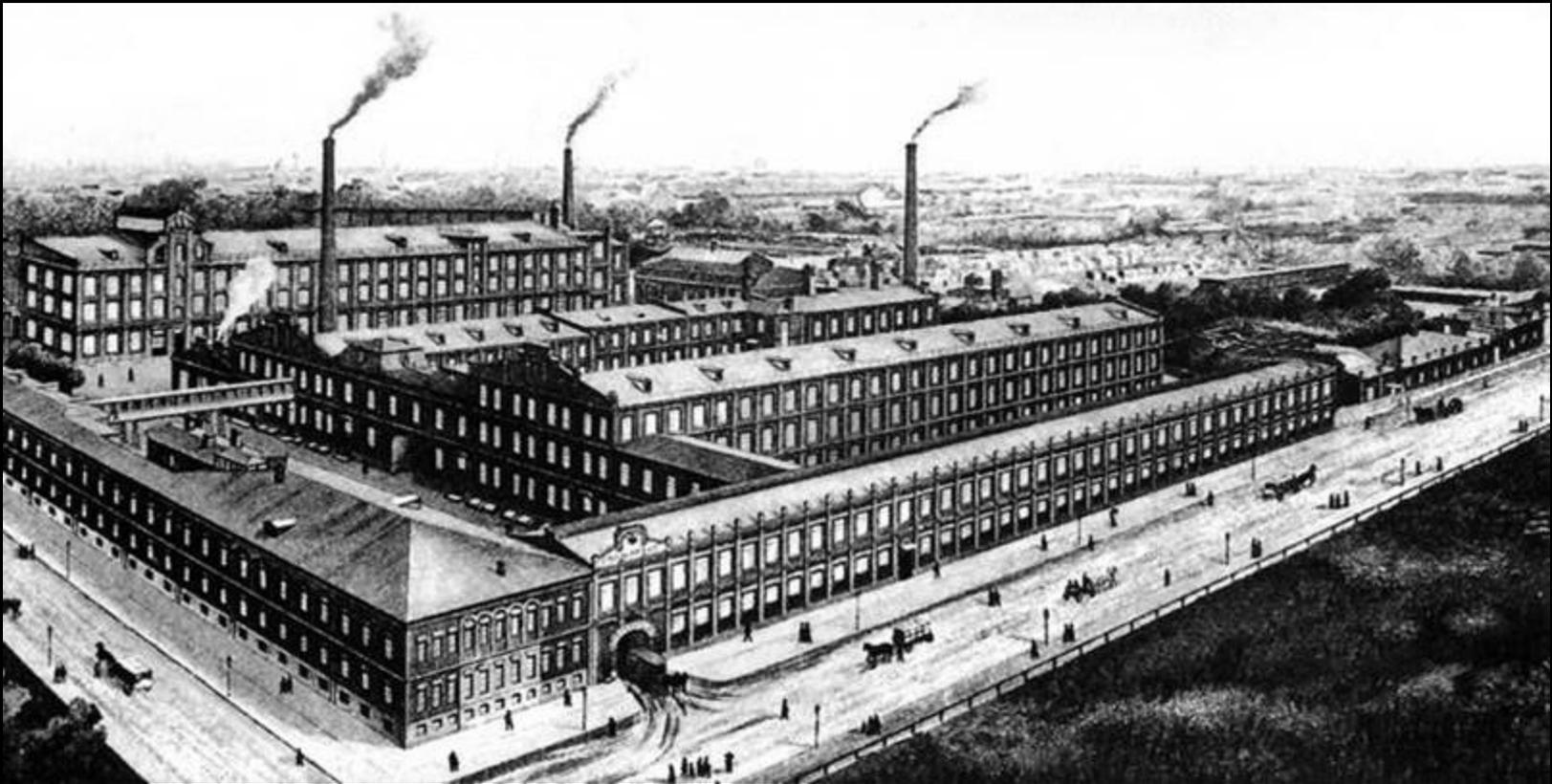
1837 – 1844

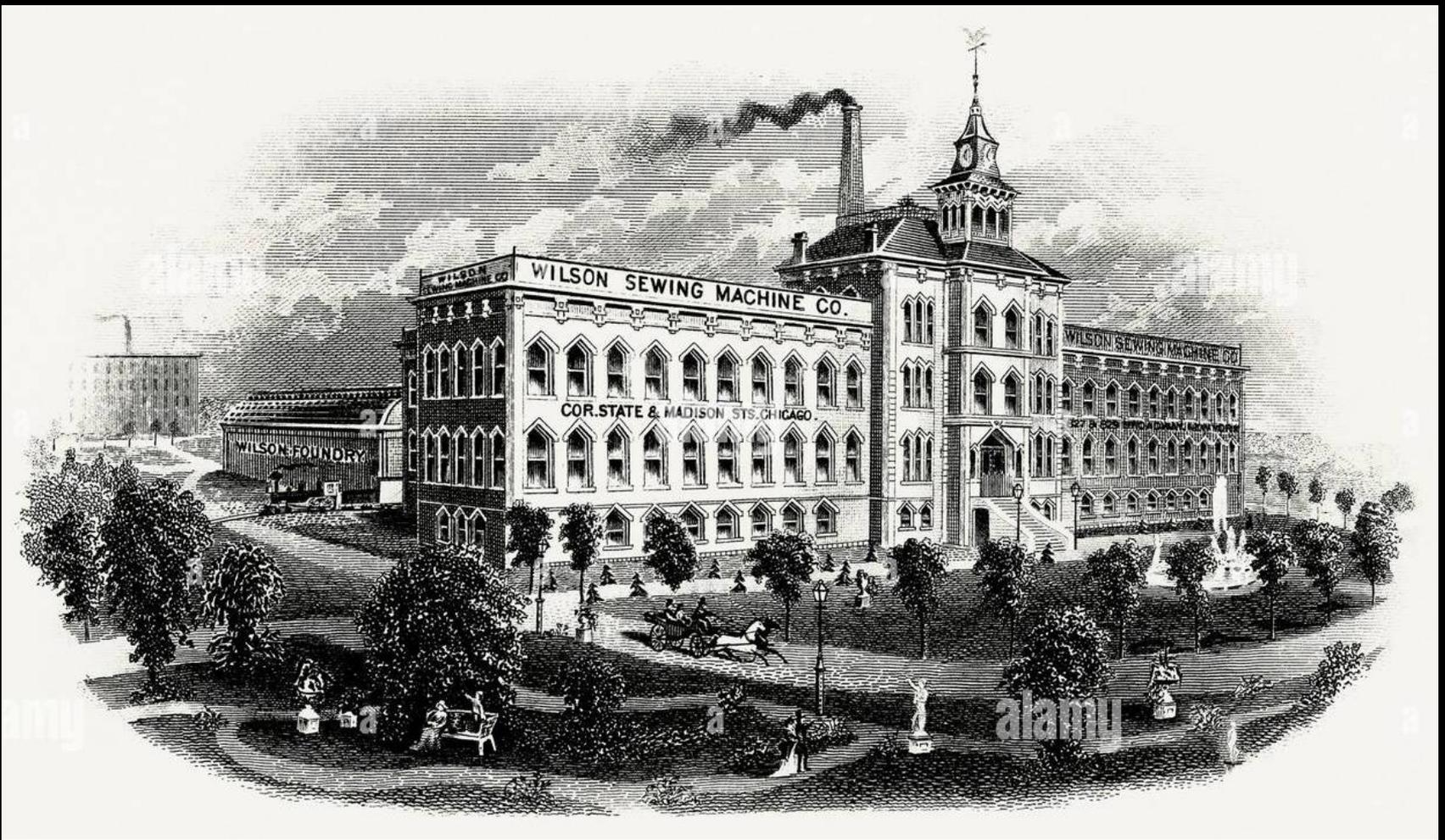
1893 – 1898

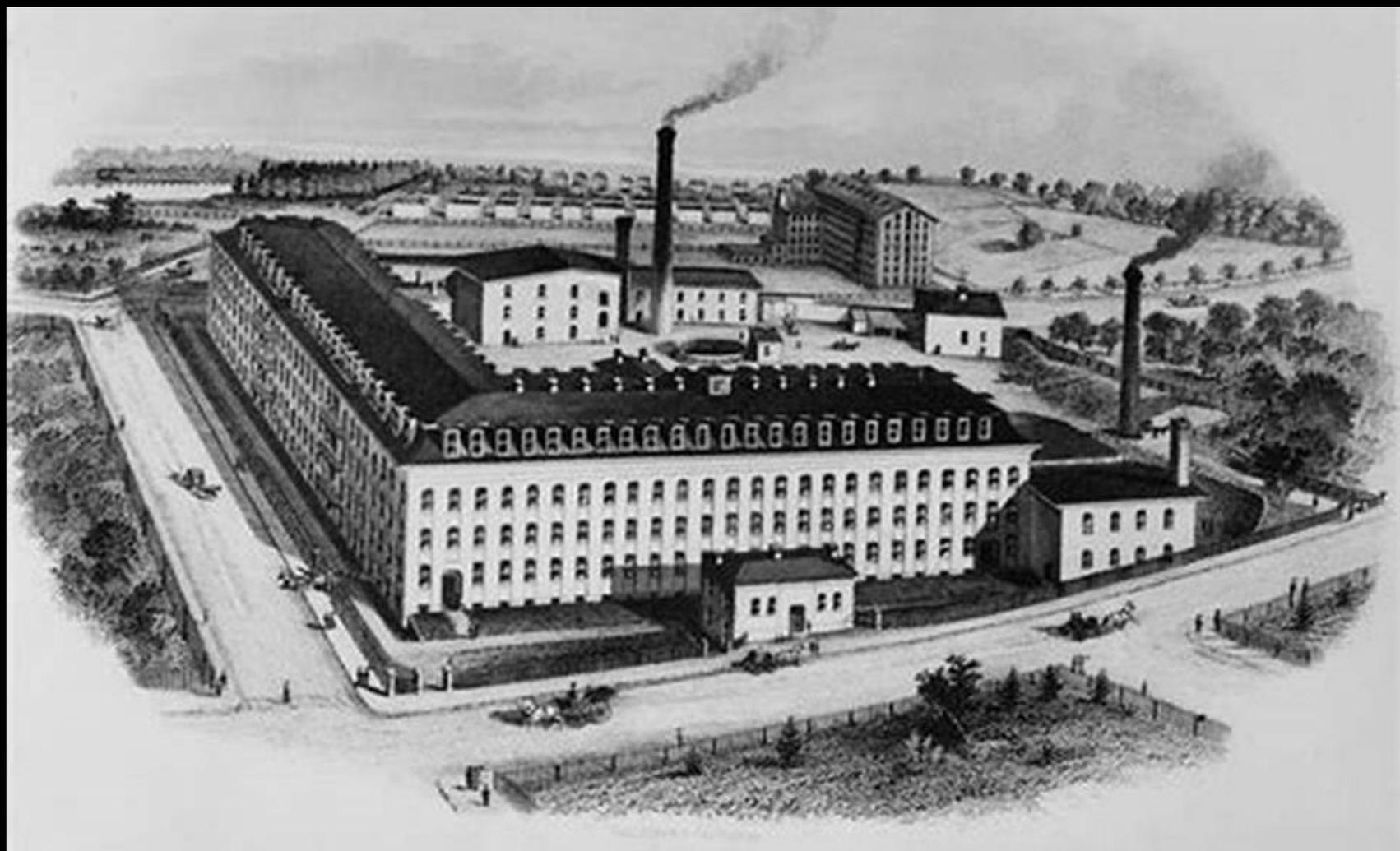
1929 - 1941

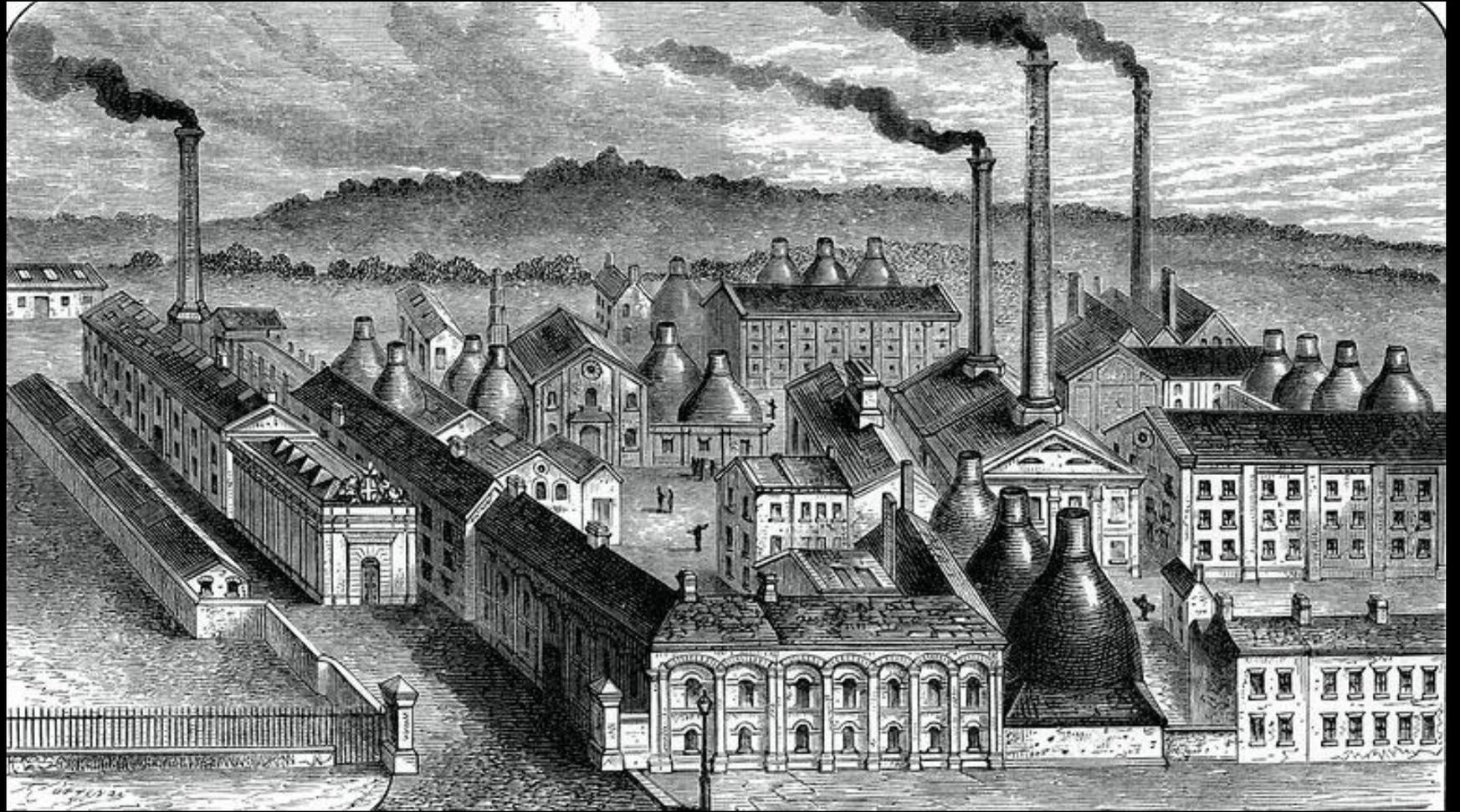


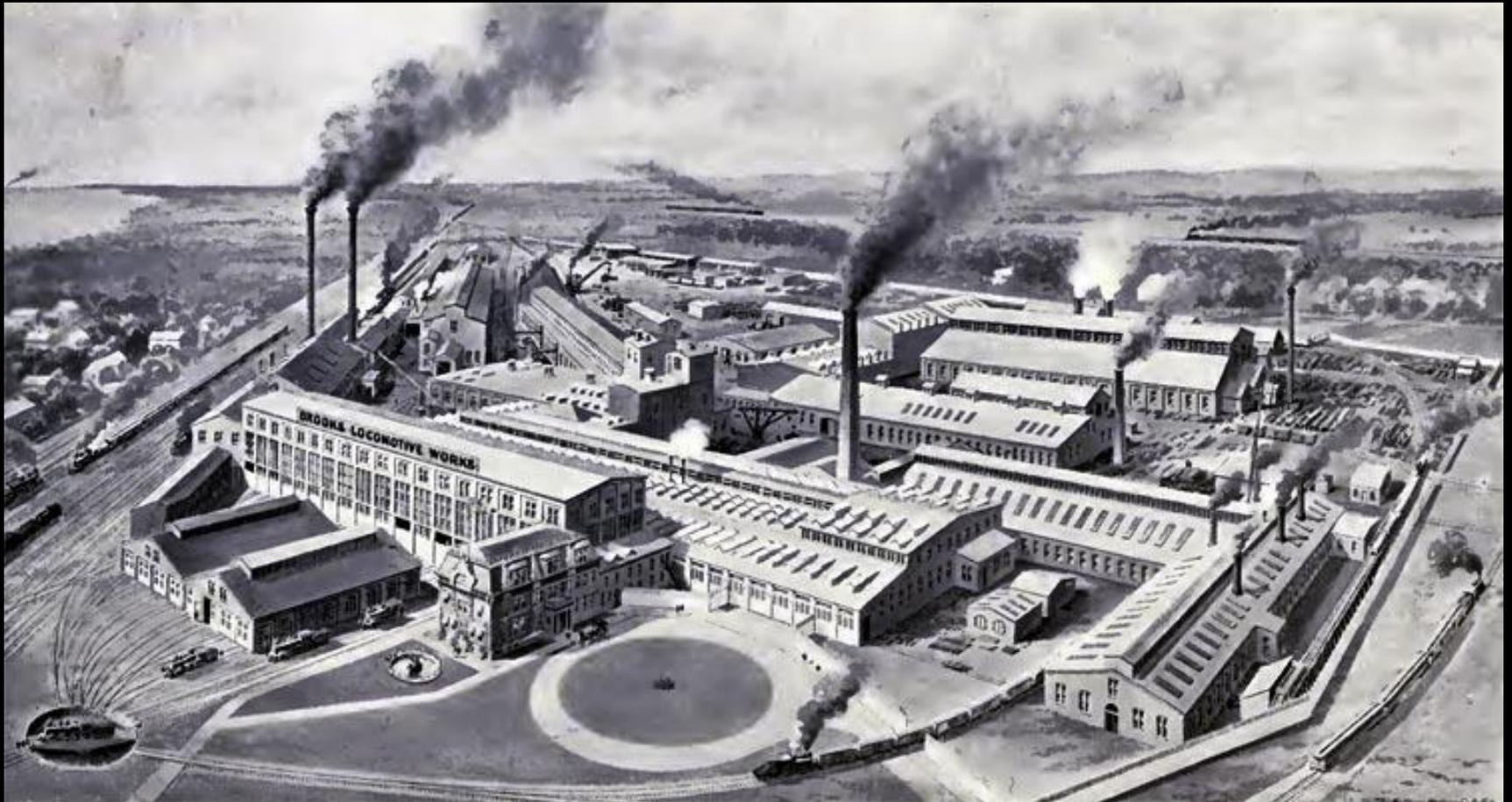
The first factory established in the US dates back to 1790 when Samuel Slater came from England and constructed a factory to produce yarn.

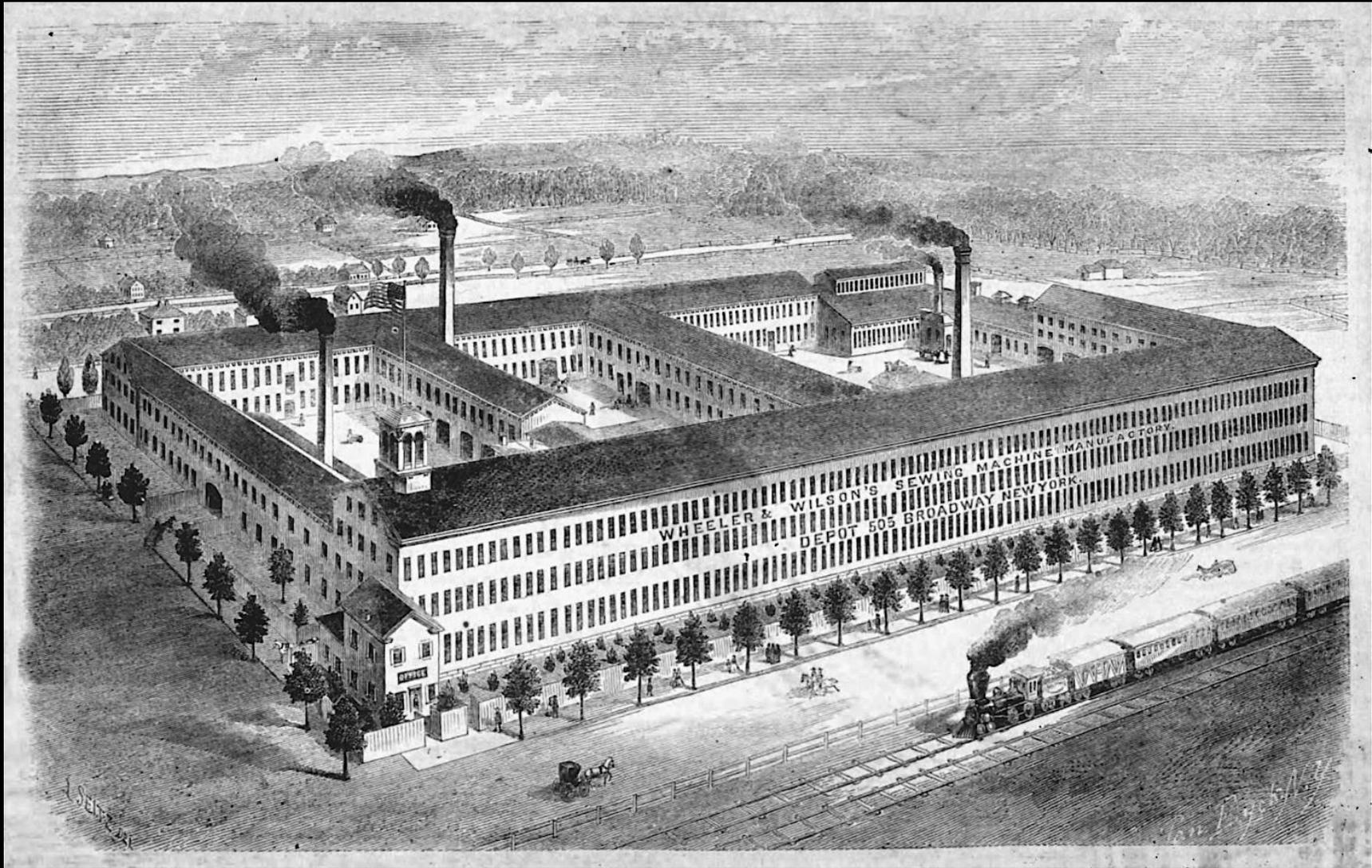


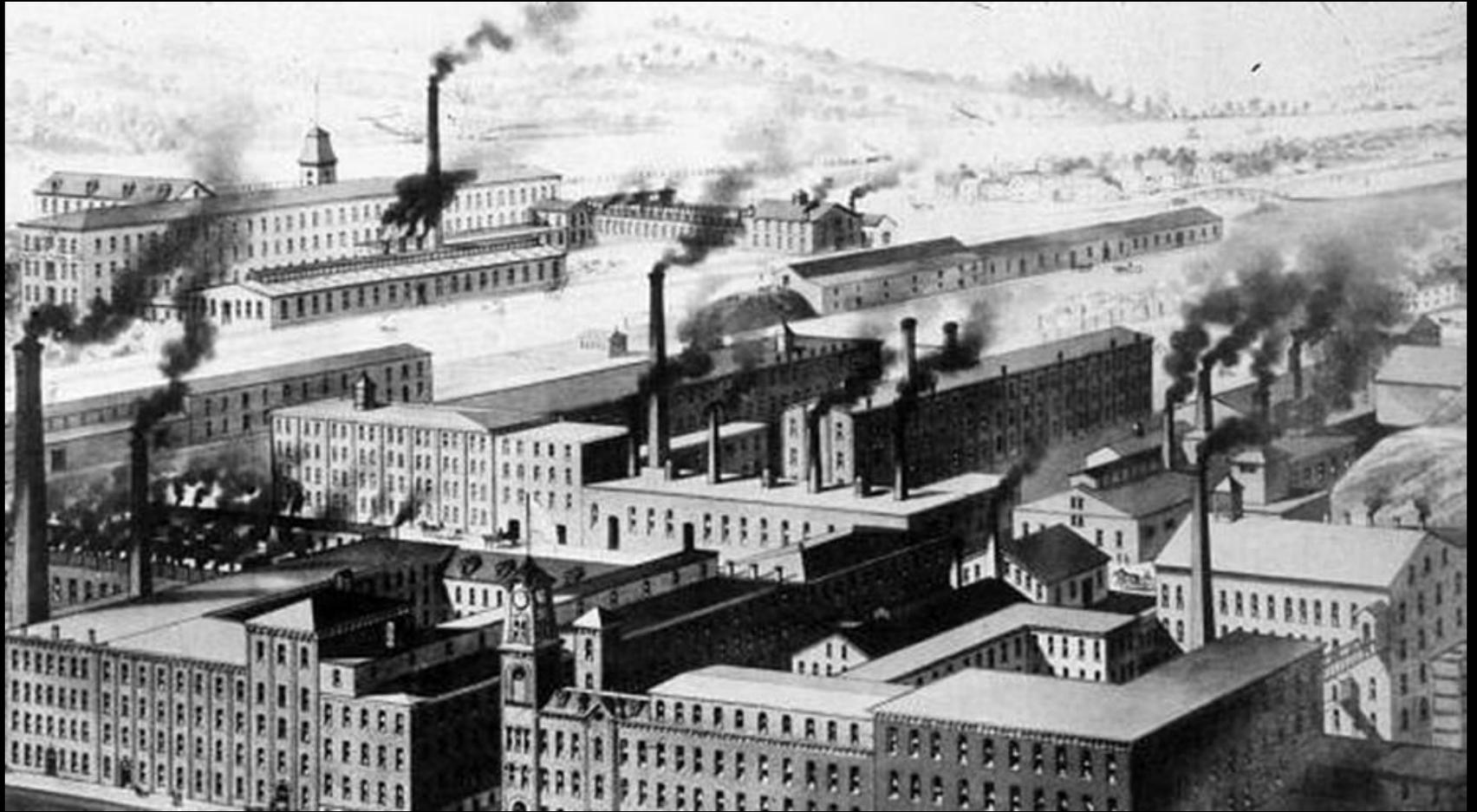




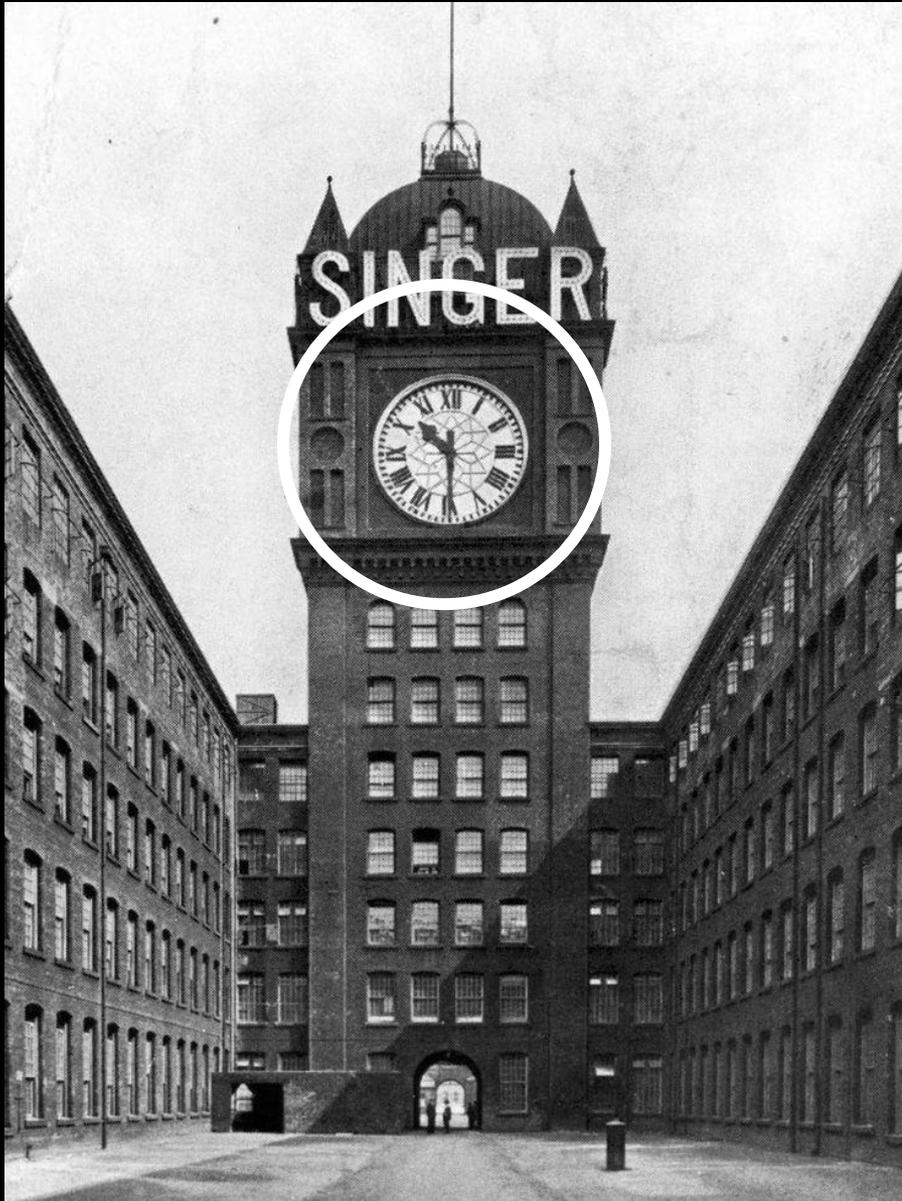












In  
company  
towns, the  
clock on  
the mill  
was  
adjusted  
to run  
slower  
during the  
day,  
faster at  
night





An actual factory floor had 200-250 looms, each making 55 yards of cloth per day. The noise was tremendous, with workers communicated by holding up colored signal flags because they couldn't be heard even if screaming





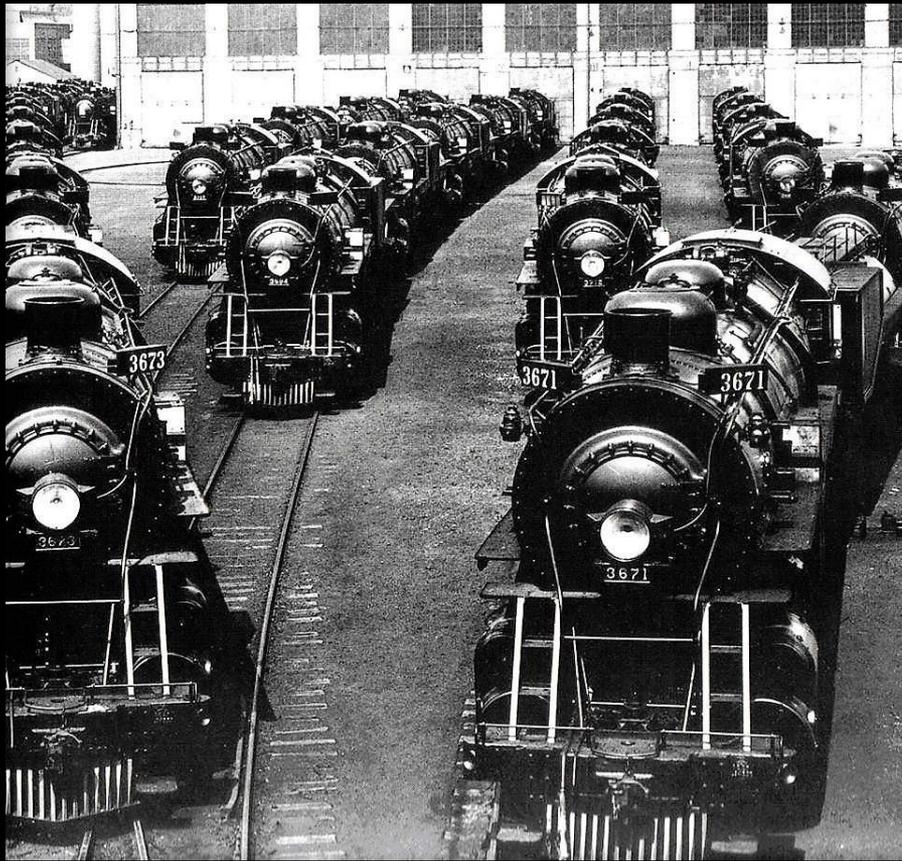
The textile workers' strike of 1934 was the largest strike in the US at the time, involving 400,000 textile workers from New England, the Mid-Atlantic states and the U.S. Southern states

Employers tried to squeeze more work out through what was called the "stretch-out":

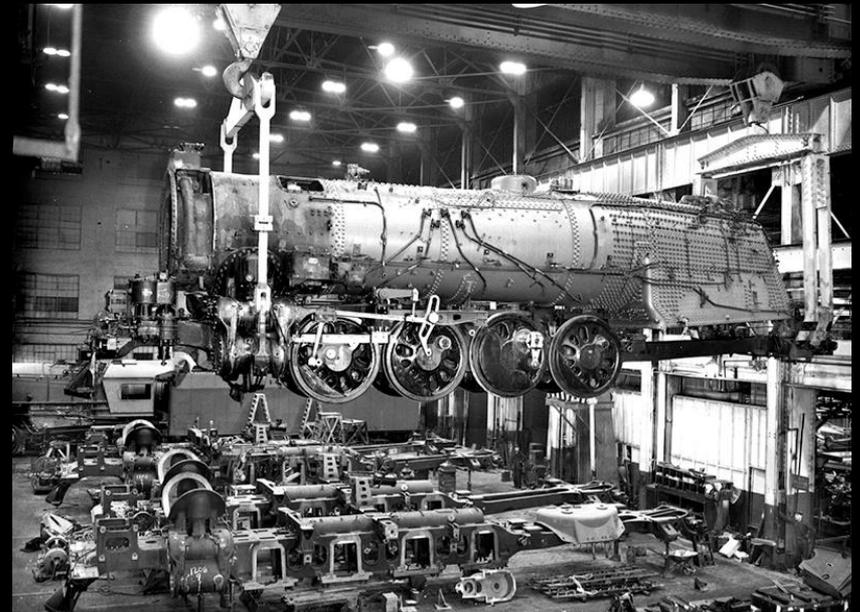
speeding up production by increasing the number of looms assigned to each factory hand, limiting break times, paying workers by piece rates, and increasing the number of supervisors to keep workers from slowing down, talking or leaving work.



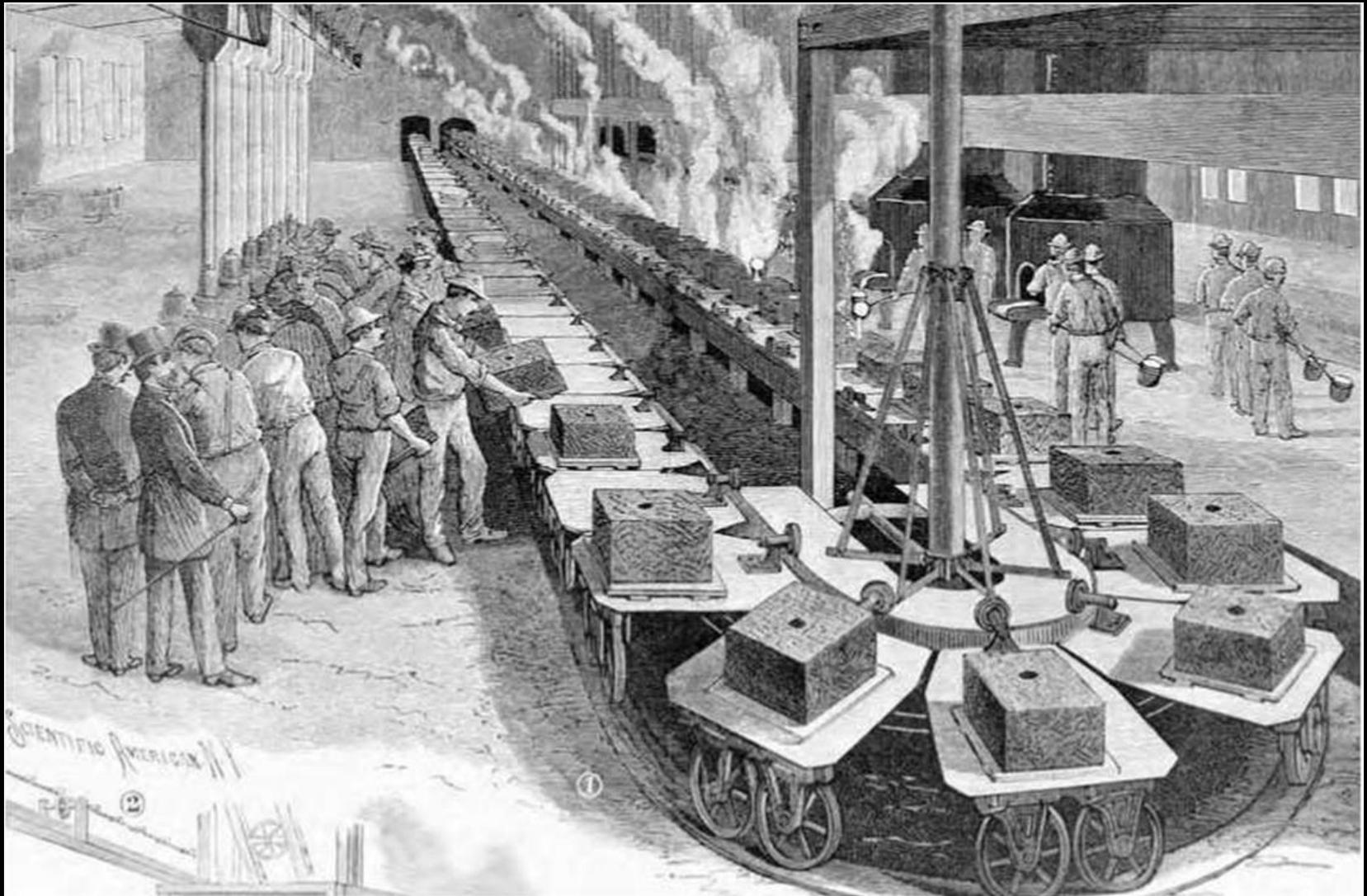


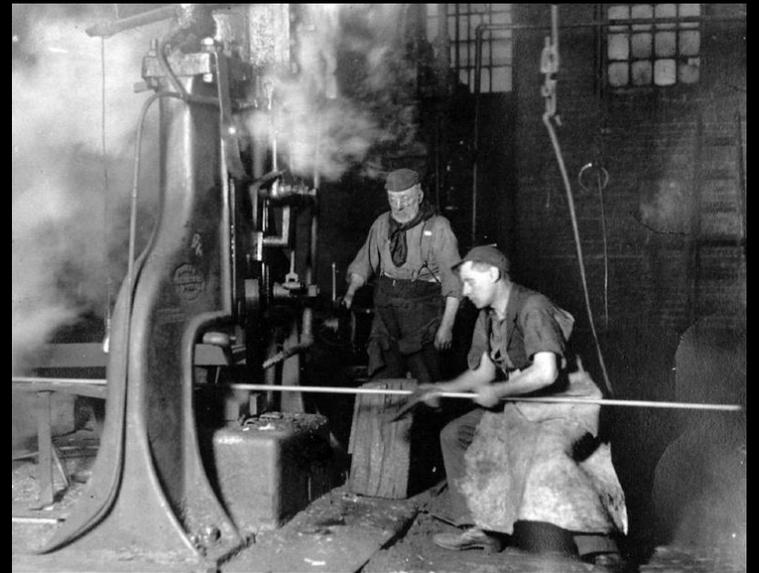
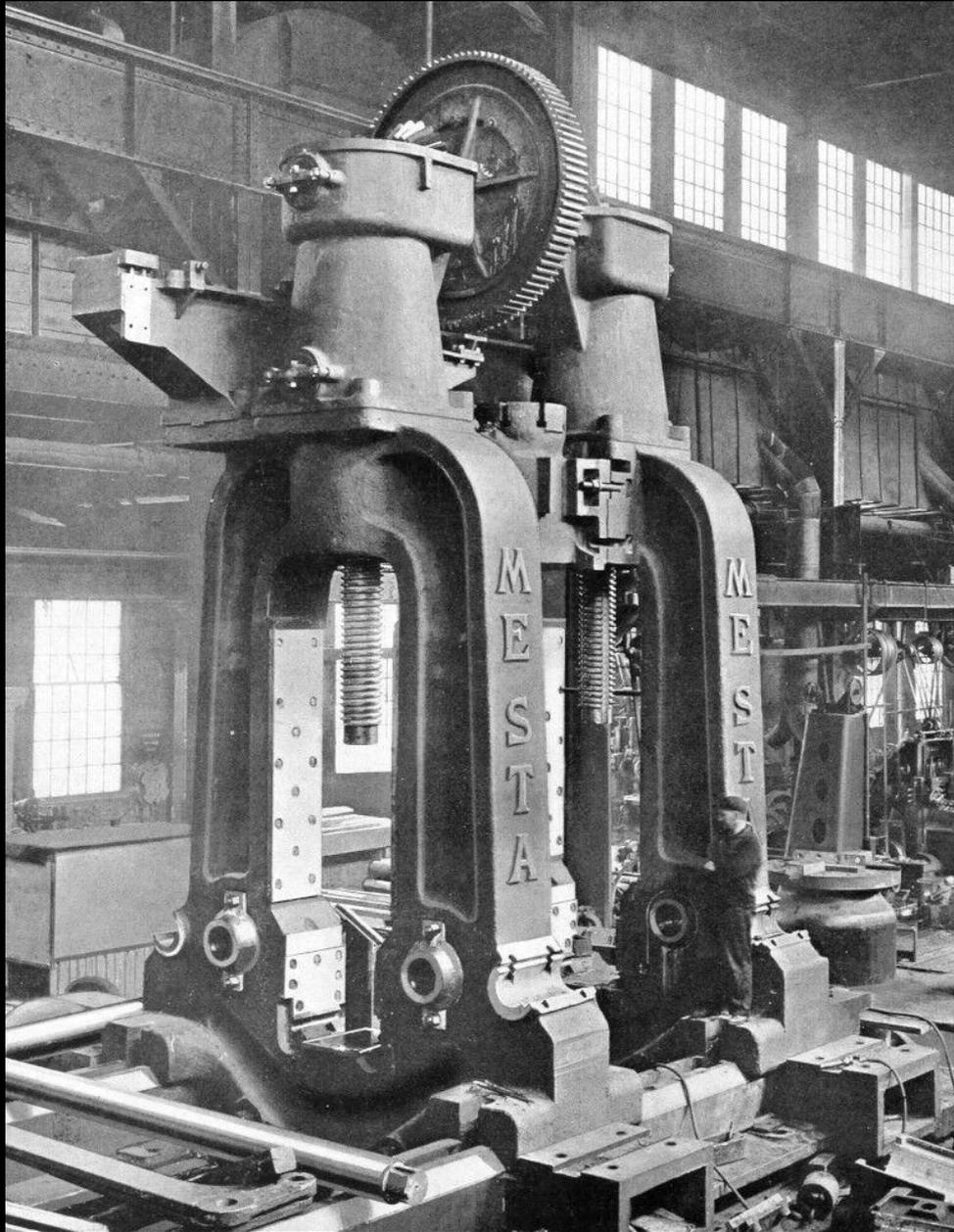


Factory  
System  
Adapted  
for  
Heavy  
Industry



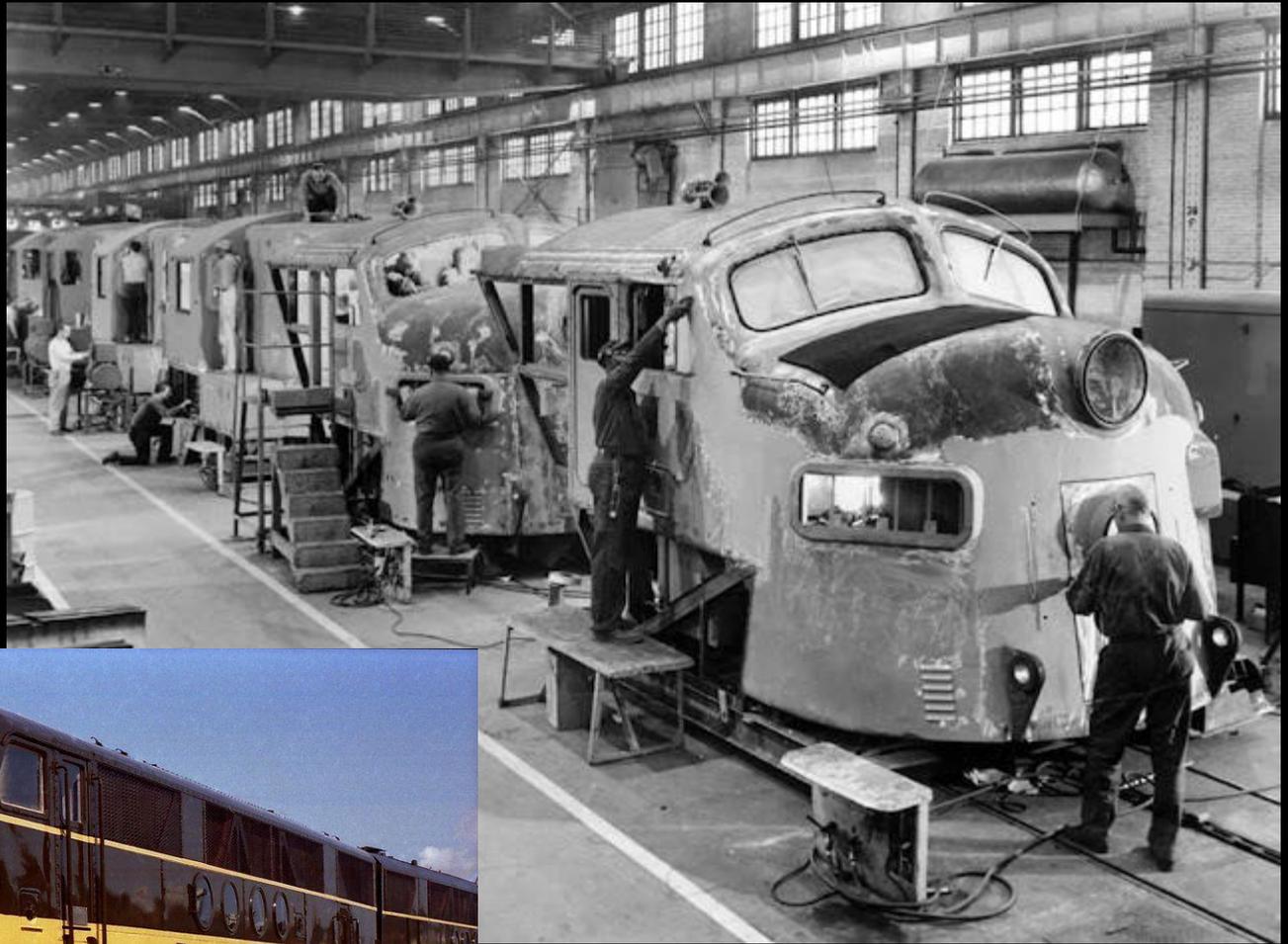
# Production of identical, inter-changeable parts







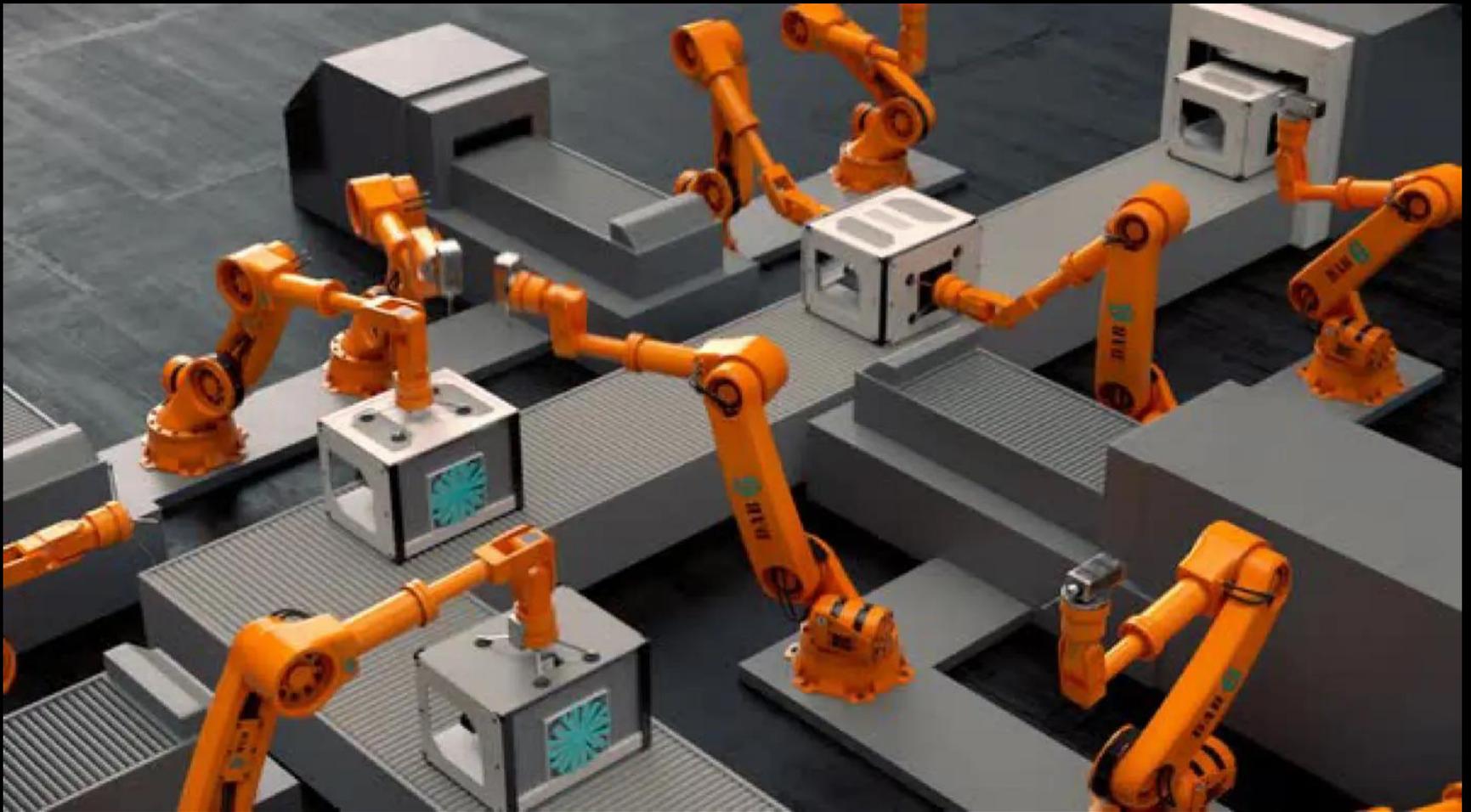
EMD Plant –  
La Grange, IL



© Poulos 1989



# Transformation in How It's Made



An assembly line is a production process that breaks the manufacture of a good into steps that are completed in a pre-defined sequence, with reduced labor costs because unskilled workers are trained to perform specific tasks.

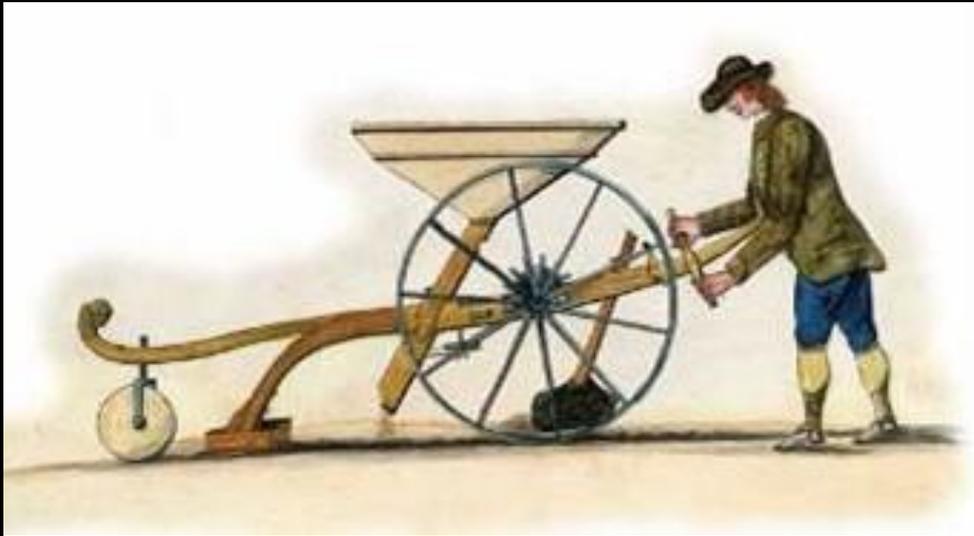
The meatpacking industry of Chicago was one of the first



The Congress of Industrial Organizations (CIO) split from the American Federation of Labor (AFL) because it favored industrial unions over craft unions.

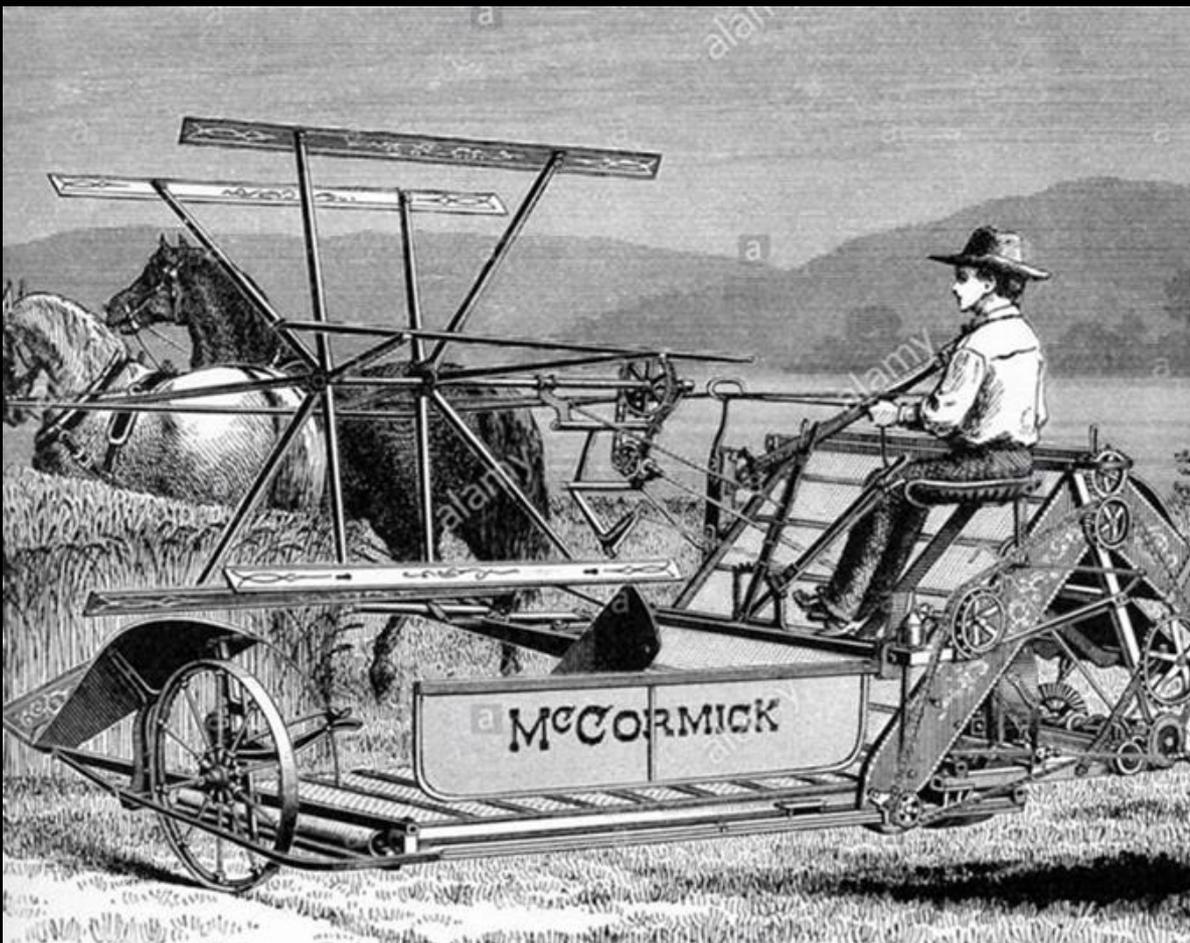
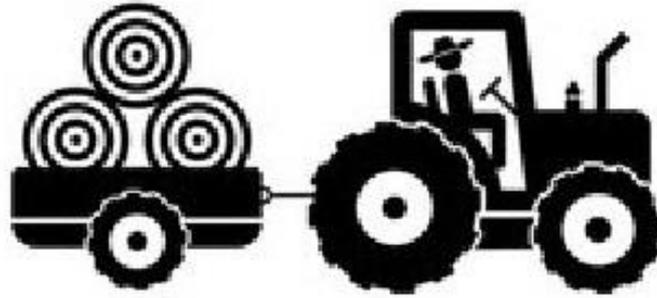
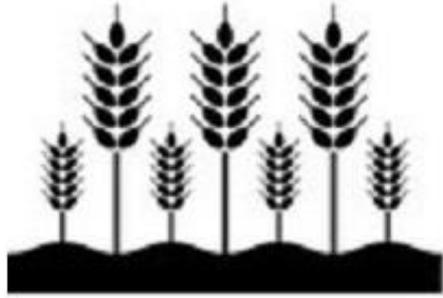
# The Factory Farm





# Seed Drill vs broadcasting





Enclosure  
Act  
farming not  
for  
subsistence,  
but for  
profit,  
benefits of  
economy of  
scale



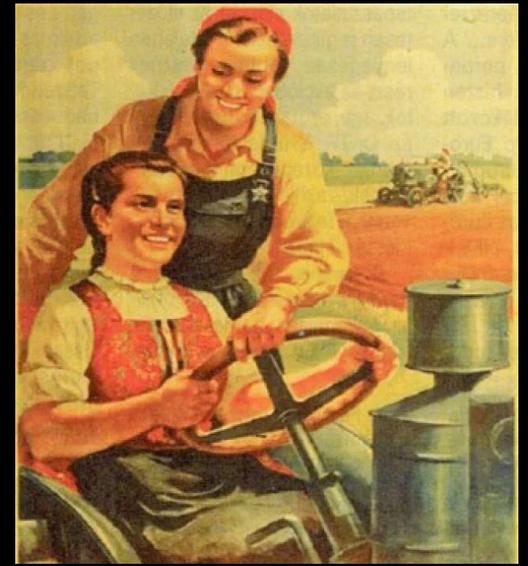
## Farm CO-Ops Collectives

In 1917 across the whole of Russia there were only 165 tractors

By the beginning of WWII, 25 years later, the Soviet Union occupied first place in the world for the production of tractors



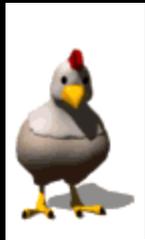
Soviet Five-Year Plans  
industrialization was considered a form  
of revolution, workers made extraordinary  
sacrifices because they saw the factories  
as theirs, as the means to a brighter future,  
to a different kind of society



# Tractors not for sale and profit, but for use in food production



媽媽开着拖拉机来了









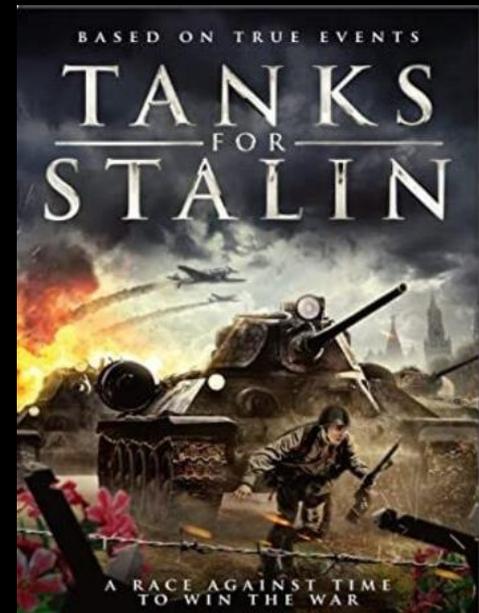
**Company, owned by one of Trump's biggest campaign contributors, charged employees for covid protective equipment, made paycheck deductions for "plant supplies." Trump issued an executive order defining the workers as essential.**

Revolution of factory life in Russia  
committees of workers' were put in control of production  
in 1918 when the Bolsheviks nationalized industry



In World War II, 1,500 factories in the Soviet Union were moved and re-assembled 700 to 1,400 miles east, along with 16M employees, to prevent a takeover by an invading army

### Tanks for Stalin



And 3,500 new factories were built under this command and control economy  
agricultural output dropped by 50%



# Great Leap Forward Liberation Truck Factory

Millions of Chinese became state workers, and total state employment reached a peak of 50.44 million in 1960



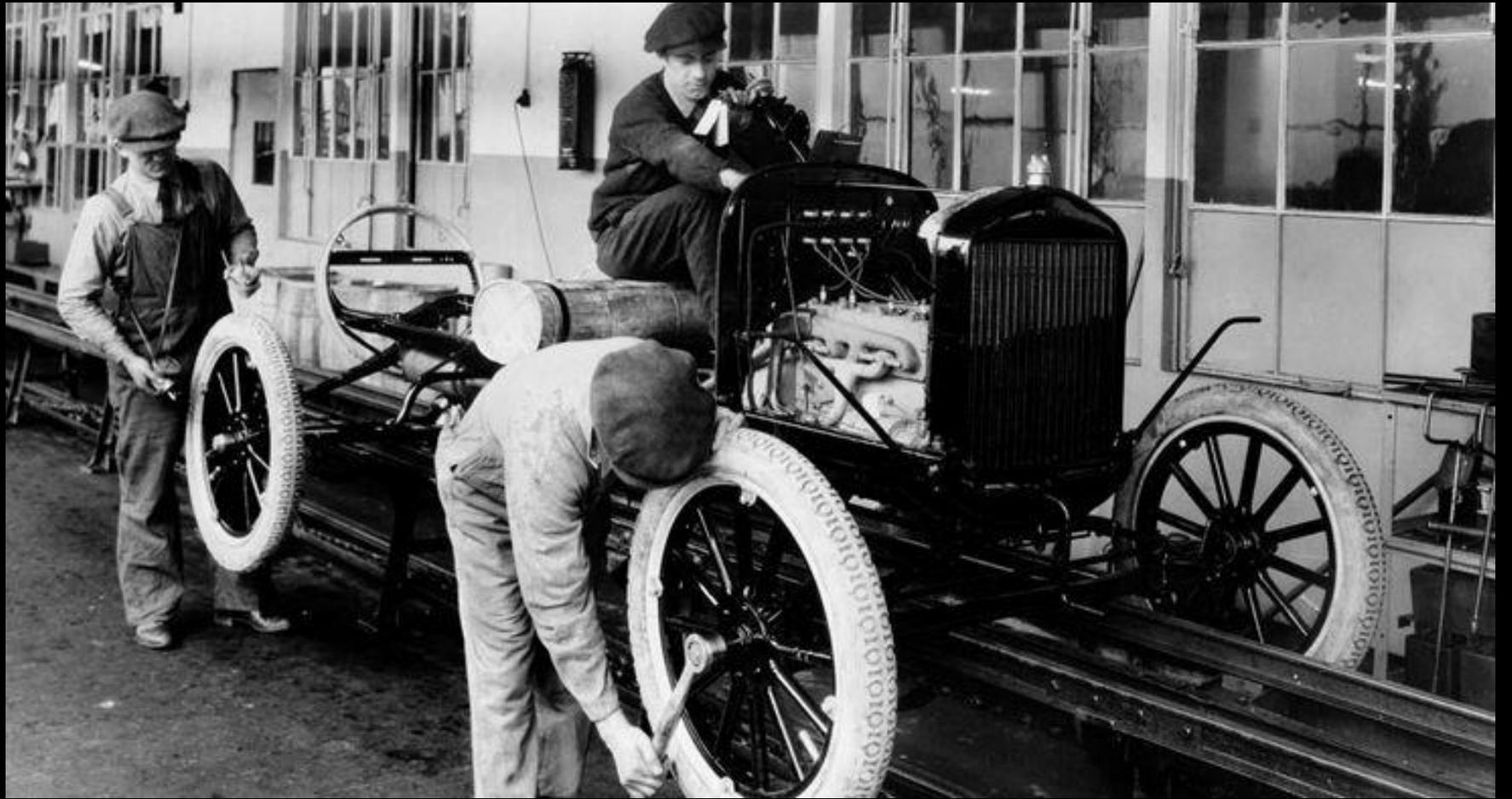


The QJ class of steam locomotives  
(Qian Jin, meaning  
'march forward' or 'progress')  
A total of 4,717 were produced



# US Automobiles assembly line







A breakdown on any part of the assembly line means that work stops. The time is recorded and the worker's pay stops. If the tie-up is for two hours, he must work two hours longer that day. In the meantime he is not permitted to leave his station at any time for any reason, and even conversation is discouraged.

"pushers" - the men hired to stand over the assembly line and shout disconcerting advice to a man whose human effort may for a moment fail to keep pace with the machine

If a worker is injured, it is up to the doctor to decide whether or not the injury is bad enough to "O. K. for time" or slight enough to "deduct for time." A record is kept of every injury brought to a doctor, and if too often a man is accused of being "careless" and he will be fired.

They men must stand in line and are paid during their 30-minute period for lunch.

Ford's cars came off the line in three-minute intervals or six feet per minute. The assembly line reduced production time for a Model T to just 93 minutes by dividing the process into 45 steps



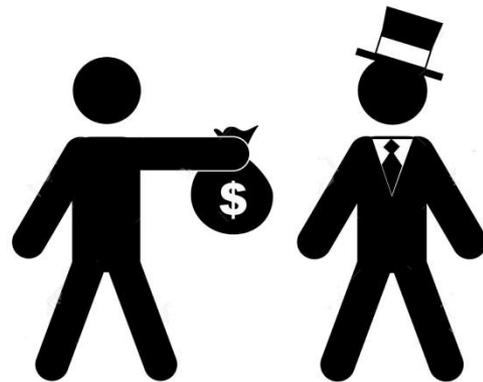
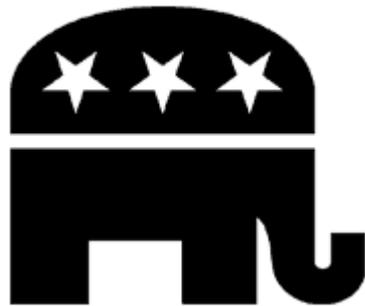
# LABOR ✓ Legislative Scorecard

AFL-CIO / Lifetime

Biden, Senate 1973-2009 100%

Harris, Senate 2117 100%

## Industrialism Changed Politics



# Tycoons





SHORPY



# The Wage Gap

the CEO-to-median worker pay ratio

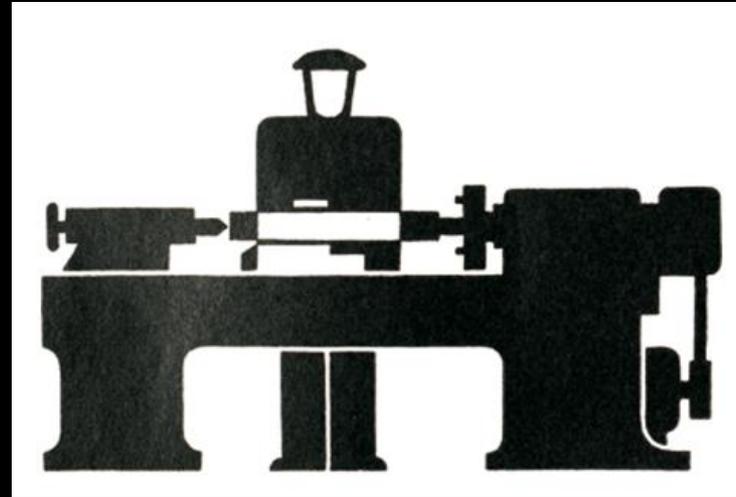
20-to-1 in 1950

42-to-1 by 1980

120-to-1 by 2000



At present there is a 670-to-1 gap between the CEO and median worker



# Education as a remedy







SHORPY

Radicalism – system change – Direct Action  
syndicalism – opposition to factory owner is criminal  
a natural opposition has never emerged





The Luddites were a secret oath-based organization - a radical faction which destroyed textile machinery



# One Thousand **POUNDS** REWARD.

WHEREAS on the Night of Sunday the 19th  
of January, 1812, the Mill belonging to

*Messrs. Oates, Wood and Smithson,*

Situate at Otlands, near Leeds, was maliciously set on Fire.---And on the Morning of the  
Twenty-fourth of March, 1812, several Persons entered the MILL of

**MESSRS. WM. THOMPSON & BROTHERS,**

Of Rawden, destroyed the SHEARS and MACHINERY therein.---And on the Morning of the 25th, some Person  
or Persons broke into the Press Shop of

**Messrs. Dickinson, Carr and Co.**

SITUATE IN WATER-LANE, LEEDS, AND

**Wantonly destroyed Cloth,**  
TO A CONSIDERABLE AMOUNT.

# 1000 POUNDS REWARD

s hereby offered to any Person or Persons who will give such Information  
s shall lead to the Conviction of any of the Offenders, on Application at  
ie Town Clerk's Office, or to any of the above-mentioned Sufferers.

**MARCH 25, 1812.**



June 27, 1905  
IWW Founded  
Industrial Workers of the  
World – Wobblies  
convention in Chicago

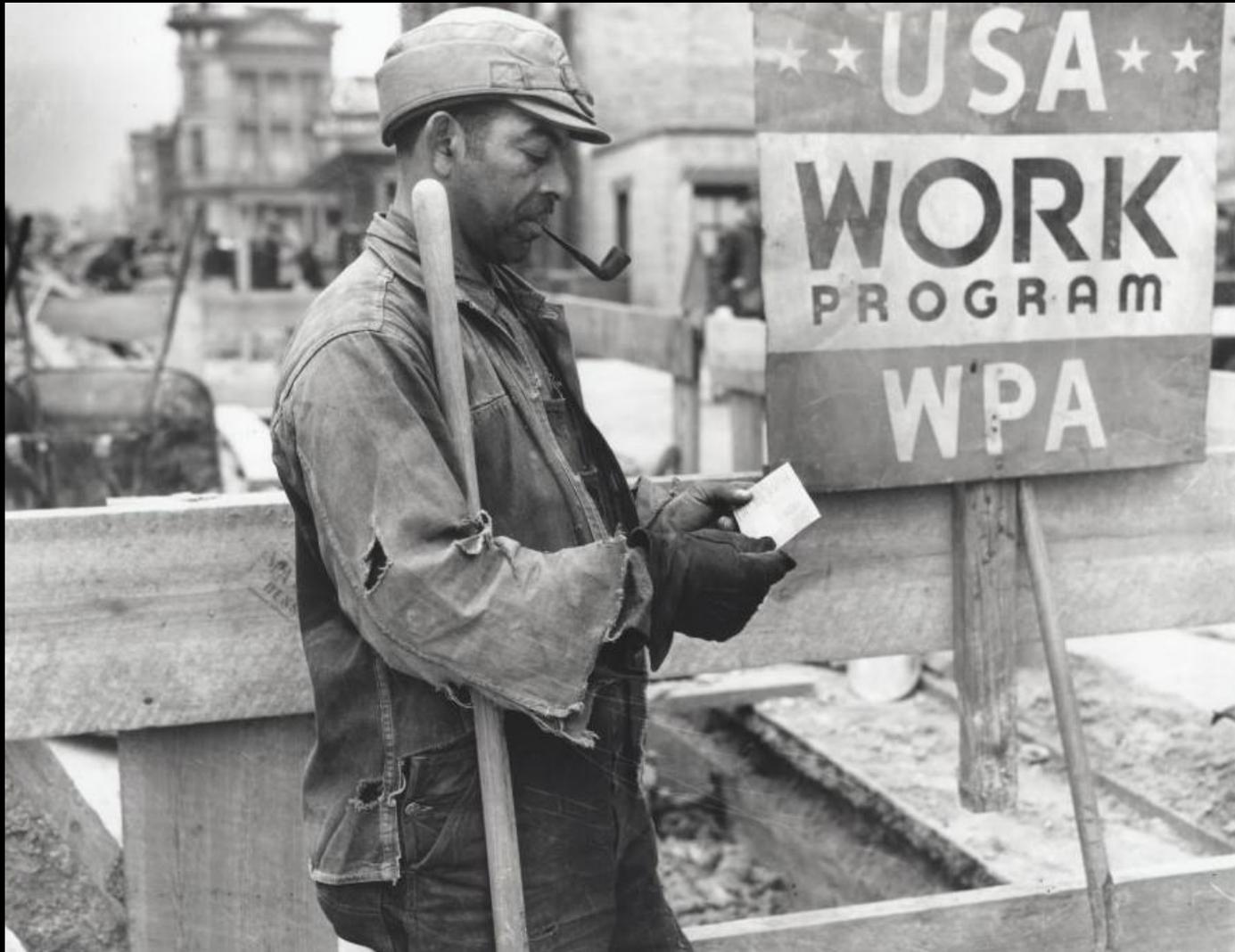
One of the most radical of  
all organized labor groups.  
They will inspire  
generations of labor  
activists with their militant  
spirit.



"It won't be long now, comrades"



# NIRA Government Regulation of Industry



For a few decades after World War II...  
Largely because of unionization, workers shared the  
great productivity gains of large-scale industry, a  
moment of relative equality and democracy in the long  
history of capitalist society



# The Union of Needletrades, Industrial, and Textile Employees UNITE

formed in 1995 as a merger between the International Ladies'  
Garment Workers' Union (ILGWU) and the Amalgamated  
Clothing and Textile Workers Union (ACTWU)



## Norma Rae

J.P. Stevens textile mill in Roanoke Rapids, NC  
The company mounted one of the most hostile  
union-busting efforts in history, amassing over  
122 unfair labor practice rulings.



# Electronics

Around 5,000 workers live and work in one laptop factory. It never stops, day or night. Workers rotate in shifts to keep laptops rolling in a constant stream. Over 300,000 are employed in the complex.



The assembly electronic devices is still done primarily by hand, due to the high cost and difficulty of automation.



iPhone

16GB

Designed by Apple in California Assembled in China  
Model No.: A1241 FCC ID: BCGA1241 IC ID: 579C-A1241







# Industrial Giantism



© Getty Images

Foreign managers believe that especially strict disciplinary measures are required in China because of socialism and a culture of everyone rather than individual effort and reward.





Recent  
Actions  
Issues



**Nabisco workers call for boycott of  
Oreos Chips Ahoy! Ritz Crackers**



**Nabisco**

**Plants on strike in six states**

## Type of Demand

Better pay

Healthcare

Health- and safety-related issues

Staffing-related

Improved COVID-19 protocols

Job security

Retirement benefits

Union recognition

Scheduling issues

First contract

Racial justice

End to sexual harassment

\$15 minimum wage

Source: <https://striketracker.ilr.cornell.edu/>



Work  
stoppages are  
up sharply  
within the US  
this year, with  
215 strikes so  
far in 2022

# Work-at-Home



Pioneer industrialized countries have shifted from production to finance, with factories as ancillary activities

The “paper ceiling” — the barrier for skilled job seekers who lack a bachelor’s degree. 75 percent of new jobs insist on a bachelor’s degree, while only 40 percent of potential applicants have one.



The nation’s undervalued workforce “has developed valuable skills through community college, certificate programs, military service, or on-the-job learning, rather than through a bachelor’s degree. Workers with experience, skills, and diverse perspectives are held back by a silent barrier.” As a consequence, more than 50 percent of the U.S.’s skilled workforce has been underemployed and underpaid.



According to the U.S. Bureau of Labor Statistics,  
more than 20% of small businesses in the U.S.  
end up failing within a year



After five years, around 50% fail  
and after 10 years, only 30% are still running

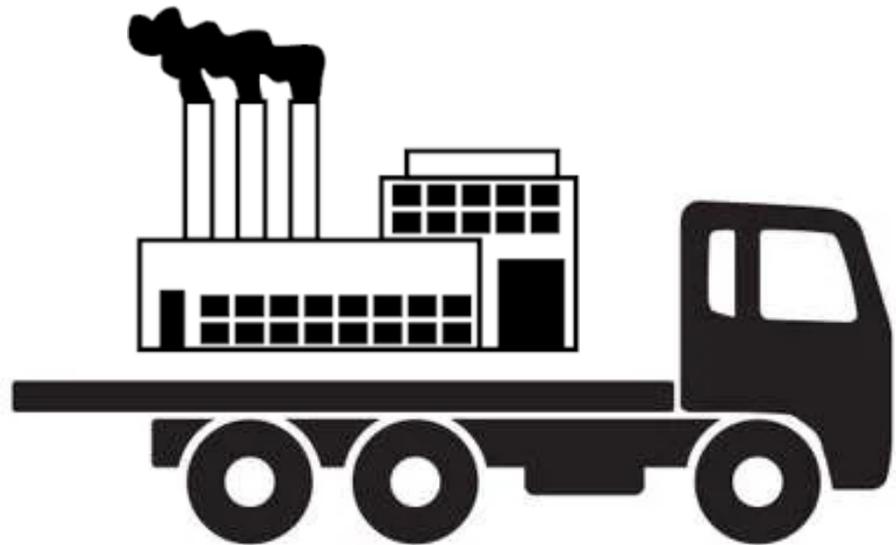


Once you pass the 15 year mark in business you  
still only have a 25% chance of surviving



Factories  
can move  
whenever  
they want

Employees  
cannot





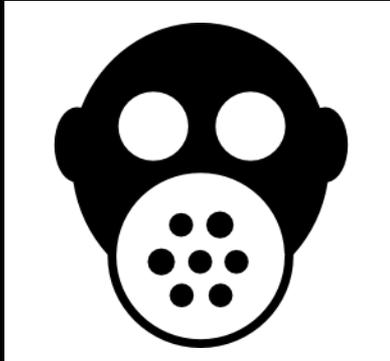
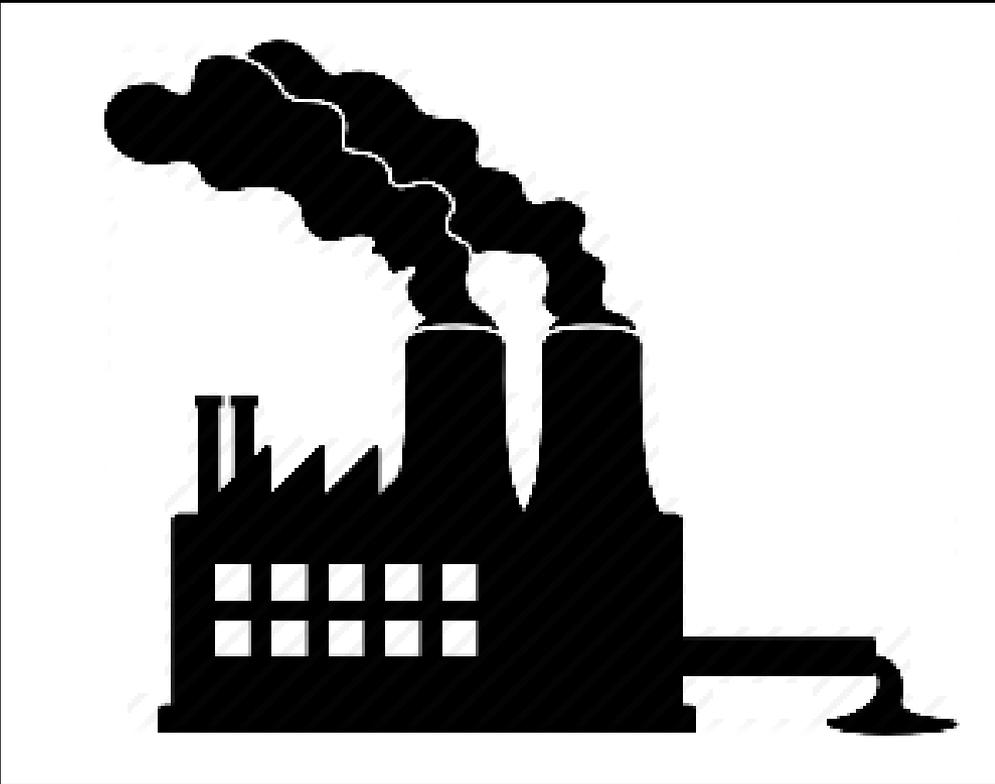
# Factories have life cycles, and those cycles have gotten shorter and shorter

The success of factories rests not only on technological innovation and economies of scale, but also on the exploitation of workers who had previously existed outside the labor market or in very poorly paid jobs.

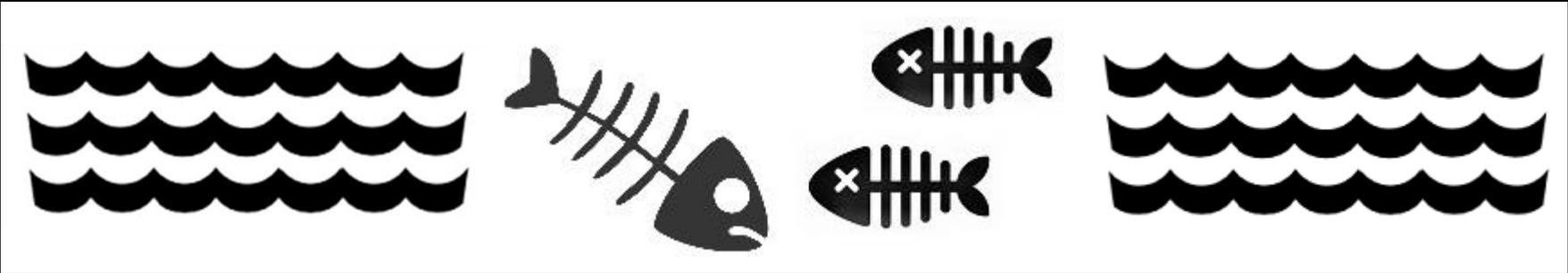
In the early days, that often meant women and children, displaced peasants, and wards of the state.

These days, migrants from poor areas or victims of regional depressions are commonly hired, grateful for jobs even with long hours, low pay and harsh conditions.

Though many Americans bemoan the loss of factory jobs to China, factories built when China opened itself up to foreign investment during the 1980s are beginning to shutter.

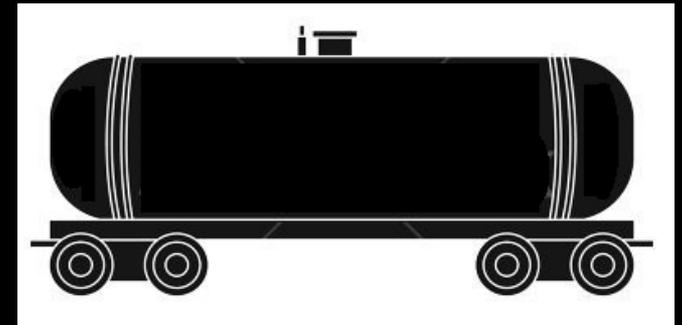
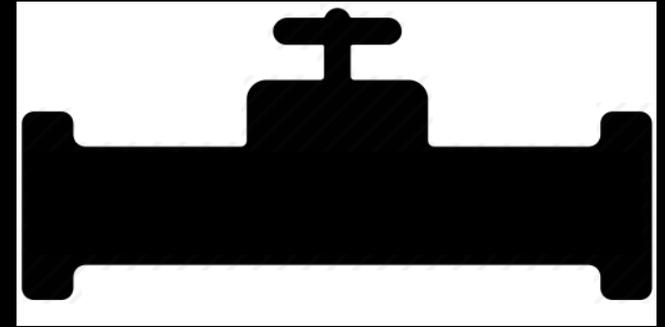
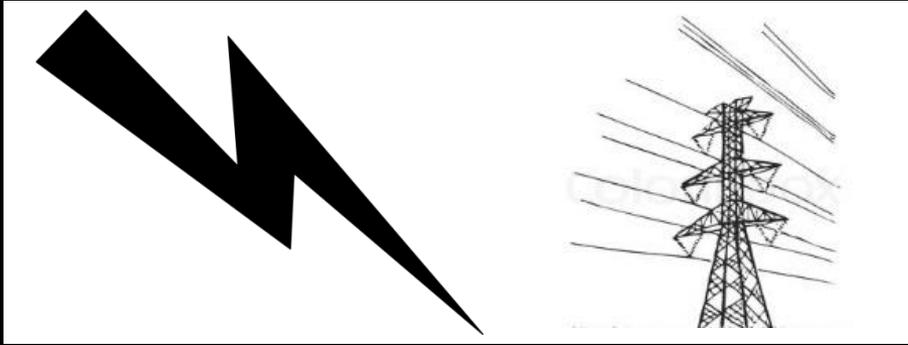


# Environmental Issues





# Infrastructure Demands / Requirements for a Factory



Some  
Employees  
Want  
Machines  
in the  
Workplace



Postal workers have reinstated high-speed mail sorting machines despite USPS orders not to put machines back in use



\$20 billion semiconductor manufacturing operation on a 1,000-acre site, Ohio's largest-ever economic development project

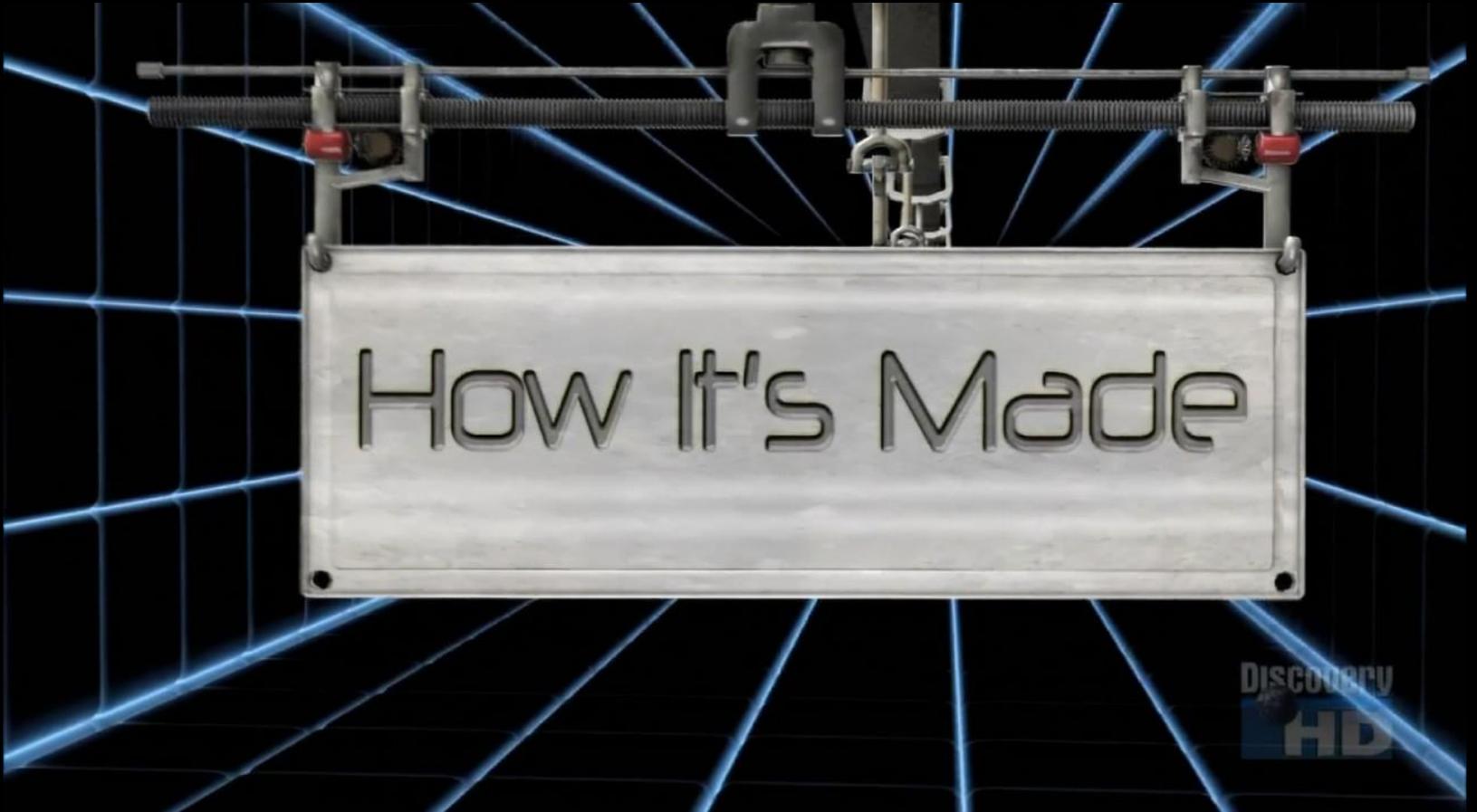
7,000 construction workers to open in 2025, will employ 3,000 people with an average salary of around \$135,000

Ohio offered Intel roughly \$2 billion in incentives, including a 30-year tax break





The United States spends more on defense than any country in the world, with a 2023 Department of Defense budget request of \$773 billion

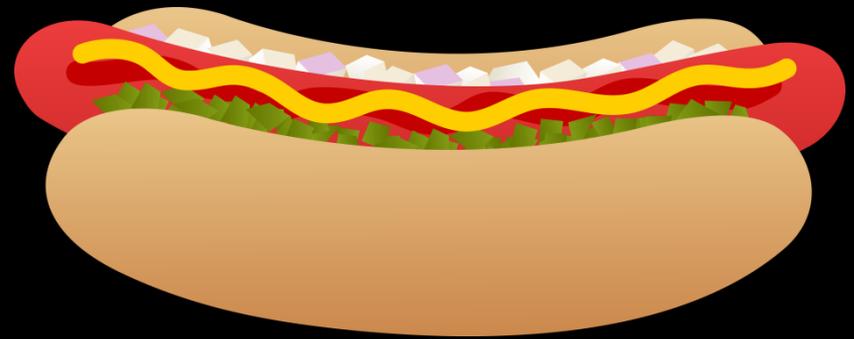


DISCOVERY  
HD

## UNION-MADE

Butterball burgers and franks  
Johnsonville brats and sausage  
Wenzel's sausage  
Smithfield sausage  
Oscar Meyer hot dogs  
Boars Head hot dogs  
Ball Park Franks  
Hebrew National franks  
Foster Farms fresh chicken  
Hormel Red Franks  
Nathan's Ball Park hot dogs

Heinz Ketchup  
Open Pit  
French's  
Gulden's Mustard  
Frank's Red Hot  
Vlasic brand pickles



Miller beer  
Budweiser  
Mountain Dew  
Pepsi  
Coke

# Happy Labor Day!



# Thank You for Coming!



“Union meeting  
tonight, spread  
the word.”

